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THE 1985 NAPAP EMISSIONS INVENTORY: DEVELOPMENT OF SPECIES ALLOCATION FACTORS

FINAL REPORT

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16. ABSTRACT The report describes the methodologies and data bases used to develop species allocation factors and data processing software used to develop the 1985 National Acid Precipitation Assessment Program (NAPAP) Modelers' Emissions Inventory (Version 2). Species allocation factors were developed to convert annual emissions estimates of hydrocarbons, nitrogen oxides (NOx), and total suspended particulates (TSP) into more resolved classes to be used in modeling and assessment activities. The factors were used to divide: the hydrocarbon estimates in the annual inventory into 32 representative chemical classes based on common reactivity and product species, the NOx estimates into NO and NO2, and the TSP estimates into 15 classes based on component species and size ranges. Temporal, spatial, and pollutant species allocation factors have been developed to convert annual emissions data into resolved modeling formats suitable for use as input to regional transport models such as the Regional Acid Deposition Model. The level of resolution required for the allocation factors was defined by the modelers based on analyses of model performance and emissions data bases.

17. KEY WORDS AND DOCUMENT ANALYSIS

a. DESCRIPTORS		b. IDENTIFIERS/OPEN ENDED TERMS	c. COSATI Field/Group
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Allocation Models	Hydrocarbons	Stationary Sources	12B
Precipitation (Meteorology)	Nitrogen Oxides Particles	Species Allocation Factors	04B
Acidification	Assessments	Acid Rain	07B, 07C 14B
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ABSTRACT

The 1985 National Acid Precipitation Assessment Program (NAPAP) Emissions Inventory has been developed by the Task Group I on Emissions and Controls. Temporal, spatial and pollutant species allocation factors were developed to convert annual emissions data into resolved modeling formats suitable for use as input to regional transport models such as the Regional Acid Deposition Model (RADM). The level of resolution required for the allocation factors was defined by the modelers based on analyses of model performance and emissions databases.

Species allocation factors were developed to convert annual emissions estimates of hydrocarbons, NO_x and TSP into more resolved classes to be used in modeling and assessment activities. The factors were used to divide the hydrocarbon estimates in the annual inventory into 32 representative chemical classes based on common reactivity and product species, NO_x estimates into NO and NO_2, and TSP estimates into 15 classes based on component species and size ranges.

This report describes the methodologies and databases used to develop species allocation factors for the 1985 NAPAP Modelers' Emissions Inventory (Version 2). For hydrocarbon and NO_x speciation, the factors and methodologies used for the 1980 NAPAP anthropogenic emission inventory formed the basis for those used with the 1985 database. Particulate speciation was significantly expanded for the 1985 inventory to include additional species as well as subdivision by particle size fraction. The report describes the databases used to develop the speciation factors and the quality assurance and quality control activities performed on the speciation factors. Detailed descriptions of speciation software are also provided.

EXECUTIVE SUMMARY

BACKGROUND

The National Acid Precipitation Assessment Program (NAPAP) was established by Congress in 1980 to coordinate and expand research on problems posed by acid deposition in and around the United States. Among the priority objectives identified by Congress was the establishment of a nationwide inventory of emissions sources of acid rain precursors. Comprehensive and accurate inventories are necessary to support a variety of assessment activities and modeling studies. One of the primary objectives of the NAPAP emissions inventories was the development of emissions data suitable for use in the development and testing of the Regional Acid Deposition Model (RADM), the principal atmospheric transport model developed by NAPAP.

The NAPAP U. S. annual emissions inventories were developed primarily on the basis of the existing U.S. Environmental Protection Agency (EPA) National Emissions Data System (NEDS). NEDS data were supplemented by the application of emission factors for several noncriteria pollutants. Environment Canada developed a similar annual inventory in cooperation with the Provincial Environment Ministries. Annual emissions data were also developed for several categories of alkaline particulate from natural sources.

The annual emissions data were resolved temporally, spatially and by chemical species for use in the development and testing of atmospheric models. The first NAPAP inventories were developed from annual NEDS data representative of the base year 1980. One of the principal objectives of the NAPAP emission inventory development project was to convert these annual emissions estimates into formats suitable for use as input to event-specific regional transport models. Spatial, temporal and species allocation factors were therefore developed in support of the 1980 emissions inventory development efforts. A comprehensive data processing system known as the Flexible Regional Emissions Data System (FREDS) was also developed for application to the 1980 NAPAP Emissions Inventory. FREDS processing of annual emissions totals resulted in the development of hourly, gridded and speciated emissions totals for each of 12 temporal scenarios representing the typical weekday, Saturday and Sunday in each of the four seasons.

The 1985 NAPAP Emissions Inventory was based on emissions and facility data obtained from NEDS and other sources for the base year 1985[1]. The final annual NAPAP database included emissions data for 10 pollutants: sulfur dioxide (SO_2), primary particulate sulfate (SO_4^{-2}), nitrogen oxides (NO_x), total suspended particulate (TSP), carbon monoxide (CO), ammonia (NH_3), hydrogen chloride (HCl), hydrogen fluoride (HF), volatile organic compounds (VOC), and total hydrocarbons (THC). As with the 1980 inventory, the 1985 annual data must be further resolved to support RADM and other modeling activities. In the modelers' inventory, therefore, NO_x emissions were represented as nitric oxide (NO), and nitrogen dioxide (NO_2); THC emissions were represented as 32 chemical species classes; and TSP emissions were represented as 15 additional classes based on size and composition. Allocation factors have been developed from a combination of new data sources as well as methodologies used in the development of the 1980 inventory. FREDS was also modified and enhanced to support specific requirements for the 1985 NAPAP Modelers Emissions Inventory.[2]

This report presents a detailed description of the procedures and databases used to speciate the annual emissions data into the modeling formats. The level of resolution required for the speciation factors was determined by the modelers based on analyses of model performance and emissions databases. Quality assurance activities were performed on the speciation factors to ensure that all sources represented in the annual inventories were speciated, and that the speciation process did not result in the loss or gain of pollutants in the generation of the modelers' inventories.

Much of the methodology for species allocation was developed for application to the 1980 NAPAP Emissions Inventory.[3] Research conducted since the publication of the 1980 NAPAP inventory has resulted in enhancements to the RADM model. Some of these enhancements required improved hydrocarbon and particulate speciation. A significant effort was undertaken during the development of the 1985 NAPAP Emissions Inventory to implement the required improvements in the speciation methodology and speciation factors.

HYDROCARBON AND NO_x SPECIATION

Hydrocarbon and NO_x speciation was accomplished by the application of speciation profiles at the SCC process level. Each source in the inventory was assigned a representative speciation profile. Each speciation profile consists of a list of chemical compounds with the weight percent of each compound in the profile. Additional files list each of the source categories included in the annual inventory with a profile assignment, and match each of the chemical compounds to one of 32 hydrocarbon classes.

A computer program known as the Pollutant Splits Program (PSPLIT) was used to construct the file of speciation factors that is applied to the SCC level annual emissions to produce moles of pollutant in each of the 32 hydrocarbon classes. The operation of PSPLIT and the content of the PSPLIT input files is discussed in Section 3. NO_x speciation factors, expressed as weight percents of NO and NO_2, are also developed during the execution of PSPLIT. Several modifications were made to PSPLIT for the application to the 1985 NAPAP emissions inventory. These modifications were necessary to support the expanded speciation requirements of the RADM model.

Quality assurance activities were performed to ensure that the weight percents of each hydrocarbon profile summed to 100 percent, that each point source SCC and area source category was assigned a profile, and that all species included in the profiles were assigned to an aggregate hydrocarbon class. Selected PSPLIT output speciation factor profiles were hand checked to ensure that the PSPLIT program operated correctly. A summary of the quality assurance procedures and the results of quality assurance checking is discussed in Section 4.

TSP SPECIATION

Total suspended particulate (TSP) emissions were estimated at the annual level for all sources. Speciation profiles for particulate matter were also developed specifically for the application to NAPAP. The profiles were generated to speciate the total suspended particulate into alkalinity classes and size ranges, and to fractionate the TSP into the reactive fractions of several elemental species. Computer programs were developed to extract the pertinent data for NAPAP applications and to generate appropriate speciation factors for each source category. The resulting TSP speciation factors are expressed as dimensionless mass fractions.

The resolution required for the 1985 NAPAP modelers' emissions inventory (Version 2) included reactive fractions of sodium (Na), calcium (Ca), potassium (K) and magnesium (Mg) in size ranges defined as 0.0 - 2.5 micron diameter, 2.5 - 10.0 micron diameter and total. The reactive fractions of the alkaline species are defined as the fraction of elemental species present as oxides, carbonates, carbides or hydroxides. The size ranges for total suspended particulate were defined as 0.0 - 2.5 micron diameter, 2.5 - 6.0 micron diameter, 6.0 - 10.0 micron diameter and total. Quality assurance/quality control checks were performed on the input and final speciation files in a manner analogous to hydrocarbons and NO_x.

CANADA/NATURAL SOURCES

Environment Canada developed an annual inventory of point and area sources similar in format to the U.S. inventory. Speciation factors developed for the U.S. anthropogenic inventory were also applied to the Canadian data. Environment Canada assigned U.S. SCC codes to Canadian point source records, facilitating speciation efforts. Canadian area source categories differed from their U.S. counterparts, and profiles were therefore assigned to these categories so as to be consistent with the U.S. area source data.

Estimates of the mass of particulate contributed by vehicle travel on unpaved roads, wind erosion and dust devils were developed for the United States by Task Group II. These categories were grouped together and are identified as natural alkaline particulate categories. Although the NEDS methodology had traditionally estimated particulate emissions for unpaved roads, that methodology was considered dated. The NEDS methodology never included adequate estimates of the emissions resulting from wind erosion or dust devils. The Task Group II effort provided more accurate estimates of the contribution of particulate emissions from unpaved roads and the first national estimates of the contributions of wind erosion and dust devils.

The estimates developed by Task Group II were specific for various size ranges for each category. The methodology for unpaved roads included emissions for the fraction less than 10 micron, for wind erosion the estimates included the fraction less than 20 micron, and for dust devils the estimates included the fraction less than 25 micron. Information on the fraction of the alkaline components in each category were also provided by Task Group II. Information included in AP-42 provided a profile for the size fraction of the particulate resulting from unpaved roads. These data were provided at a resolution that was inconsistent with the size fraction data developed for the anthropogenic emissions. The approximate size fraction data were obtained by interpolation using the profile presented in AP-42. Similar data were not available for the other natural particulate categories. Therefore, the allocation factors that were calculated for unpaved roads were also applied to the other two natural particulate categories.

Environment Canada supplied data for the emissions of alkaline particulate for source categories that included unpaved and paved roads and wind erosion. These categories were grouped together and were included in the NAPAP natural emissions. Environment Canada also provided the fractions of the alkaline components for each category. The size fraction data developed for the U.S. natural sources was also applied to the Canadian data.

ACKNOWLEDGMENTS

The development and implementation of speciation factors for the 1985 NAPAP Emissions Inventory development project involved the cooperative efforts of several individuals and government offices. J. David Mobley and Robert C. Lagemann of the Environmental Protection Agency's Air and Energy Engineering Research Laboratory provided guidance and coordinated the interaction with other government offices.

Joan H. Novak of the Environmental Protection Agency's Atmospheric Research and Exposure Assessment Laboratory and Paulette Middleton of the National Center for Atmospheric Research coordinated the specification and scientific review of the hydrocarbon classification scheme. Gunseli Shareef of Radian Corporation's Research Triangle Park Office was the project manager of the research effort to develop the speciation profiles for hydrocarbons and particulate matter and assign the profiles to source categories.

SECTION 1
INTRODUCTION

BACKGROUND

The National Acid Precipitation Assessment Program (NAPAP) was established by Congress in 1980 to coordinate and expand research on problems posed by acid deposition in and around the United States. Among the priority objectives identified by Congress was the establishment of a nationwide inventory of acid rain precursor emissions. Comprehensive and accurate inventories are necessary to support a variety of assessment activities and modeling studies. One of the primary objectives of the NAPAP emissions inventories is the development of emissions data suitable for use in the development and testing of the Regional Acid Deposition Model (RADM).

The NAPAP Emissions Inventory includes emissions data for anthropogenic and natural sources in both the United States and Canada. Data for anthropogenic sources in the United States are derived primarily from the existing U.S. Environmental Protection Agency (EPA) National Emissions Data System (NEDS). NEDS data are supplemented by the application of emission factors for several noncriteria pollutants. Information from research on natural sources has also been included in the inventory. For sources in the United States, NAPAP's Task Group on Atmospheric Chemistry (Task Group II) has provided estimates of alkaline particulate emissions.

Environment Canada, provincial air pollution control agencies, and EPA worked cooperatively to develop an annual data base of Canadian emissions which would be consistent and compatible with the inventory of sources in the United States. The data are derived from a national inventory compiled by Environment Canada from data collected by provincial Environmental Ministries. Environment Canada also supplied annual estimates for natural source particulate emissions.

To support models such as RADM, the annual emissions data are resolved temporally, spatially and by chemical species for use in the development and testing of atmospheric models. The first NAPAP inventories were developed from data representative of the base year 1980. Spatial, temporal and species allocation factors were developed in support of the 1980 emissions inventory development efforts. A comprehensive data processing system known as the Flexible Regional Emissions Data System (FREDS) was also developed for application to the 1980 NAPAP Emissions Inventory. FREDS processing of the 1980 annual emissions data resulted in the development of hourly, gridded, speciated emissions totals for each of 12 temporal scenarios (representing the typical weekday, Saturday and Sunday in each of the four seasons).

The 1985 NAPAP Emissions Inventory is based on emissions and facility data obtained from NEDS and other sources for the base year 1985.[1] The final annual NAPAP database includes emissions data for 10 pollutants: sulfur dioxide (SO_2), primary particulate sulfate (SO_4^{-2}), nitrogen oxides (NO_x), total suspended particulate (TSP), carbon monoxide (CO), ammonia (NH_3), hydrogen chloride (HCl), hydrogen fluoride (HF), volatile organic compounds (VOC), and total hydrocarbons (THC). As with the 1980 inventory, these data are further resolved to support modeling activities, In the 1985 modelers' inventory, NO_x is represented as nitric oxide (NO) and nitrogen dioxide (NO_2); THC is represented as 32 chemical species classes; and TSP is represented as 15 additional classes based on size and composition. Allocation factors have been developed from a combination of new data sources as well as methodologies used in the development of the 1980 inventory. FREDS was also modified and enhanced to support specific requirements for the 1985 NAPAP Modelers' Emissions Inventory.[2]

OBJECTIVE

This report provides comprehensive documentation of the development and processing of species allocation factors for the 1985 NAPAP Emissions Inventory development effort. The species allocation methodology was similar to that applied to the 1980 NAPAP inventory.[3] The factors themselves were modified significantly to provide resolution required by the RADM. This report also provides details concerning the development of data processing software and the quality control and quality assurance steps that were performed on the species allocation factors.

ORGANIZATION OF THE REPORT

A description of the allocation methodologies and data sources for hydrocarbons, NO_x and particulates is presented in Section 2. Section 3 describes the data processing software used to prepare the speciation data for use with the NAPAP inventory. A summary of the quality assurance and quality control activities applied to the allocation factors is presented in Section 4. Seven Appendices are included which present the processing software and list the files used to develop the species allocation factors.

SECTION 2
SPECIATION METHODOLOGY

HYDROCARBONS AND OXIDES OF NITROGEN SPECIATION

Emissions of hydrocarbons and oxides of nitrogen in the 1985 NAPAP Emissions Inventory were estimated on an annual basis for specific point source processes and area source categories. These annual emissions estimates were developed as total hydrocarbons (THC), volatile organic compounds (VOC) and total oxides of nitrogen (NO_x). Regional atmospheric models that simulate chemical transformations require inputs for the hydrocarbons that are desegregated into chemically reactive hydrocarbon classes. Similarly, the models require that the estimates of NO_x emissions be divided into nitric oxide (NO) and nitrogen dioxide (NO_2). The specific requirements of the atmospheric models related to the speciation of THC and NO_x are dependent on the chemical mechanism used to represent the atmospheric chemistry in the model. It was anticipated that the 1985 NAPAP Modelers' Emissions Inventory would be used for applications other than as input for the RADM. The speciation classification scheme for hydrocarbons was therefore developed to accommodate other potential uses of the inventory as well.

Hundreds of specific hydrocarbon species are emitted from industrial, commercial, residential and agricultural activities. The reactivity of these individual species relative to important tropospheric chemical systems is highly variable. The development of emissions estimates for each of the important species was not possible on the scale of the NAPAP inventory. Therefore, representative speciation profiles were developed to represent the speciation characteristics of the major pollutant source types. The speciation profiles were developed from source tests for a limited number of individual sources for specific processes. These profiles were then applied to all of the sources within a particular source category or categories.

Species Profiles and Application to Source Categories

Hydrocarbon speciation was performed for the 1985 NAPAP Emissions Inventory by the application of a speciation profile to each of the SCC level processes and area source categories in the annual database. The speciation profiles are lists of the individual species that have been measured in the emission streams of tested sources. Data provided for each hydrocarbon speciation profile includes the species name, SAROAD code, molecular weight, and weight percent contribution to total hydrocarbon emissions. The weight percents of the individual species are presented in such a way as to sum to 100 percent for each profile.

An extensive review of available source test results was completed for the 1985 NAPAP Emissions Inventory development effort. Tasks undertaken included the revision or replacement of poor quality profiles and the addition of profiles available in the literature. An additional five profiles were developed from a speciation test program to characterize high priority source types. As a result, the number of hydrocarbon profiles was expanded significantly compared to the number of profiles that were applied to previous EPA inventory development efforts[4]. A total of 313 specific hydrocarbon speciation profiles were applied to the 1985 NAPAP Emissions Inventory.[5]

Each point source process (defined by Source Classification Code) and each area source category in the inventory was assigned to a speciation profile. There are many more SCCs than there are unique profiles to characterize them as the profiles were developed only for a subset of specific process types. Therefore, profiles were also applied to source types that were descriptively similar to the source type for which the profile was developed. In addition, industry average profiles were generated for application to sources within a given industry for which a specific profile was not available. An overall average profile was also generated and applied to sources which were not expected to be hydrocarbon emitters. These additional steps were taken to assure that all THC emissions were processed through the FREDS speciation software. In the event that THC emissions were reported for a process that is not commonly recognized as a source of hydrocarbons, those emissions would have been lost during speciation processing by FREDS if no profile were associated with the process category.

Speciation factors for NO_x were added to the hydrocarbon speciation profiles so that NO_x speciation could be accomplished during the speciation step for hydrocarbons. NO_x was speciated into NO and NO_2 by applying weight percent factors that were added to the hydrocarbon speciation profiles. The NO_x speciation factors were obtained from recommendations published by EPA.[6] A default assignment of 95 percent NO and 5 percent NO_2 was applied to sources for which guidance concerning the distribution of NO and NO_2 was not available. In most cases, the default NO_x split factors are applied to sources that are not expected to be significant NO_x emitters. It should be noted that, since NO_x emissions are expressed as tons of NO_2, and NO_x speciation factors sum to 100 percent by weight, that both NO and NO_2 speciated emissions are expressed in the resolved inventory as tons of NO_2.

Hydrocarbon Classification

It is necessary to reduce the number of hydrocarbon species that are considered for applications to regional model simulations of atmospheric systems. The representation of detailed chemistry for hundreds of specific chemical species is not technically feasible. The hydrocarbon classification scheme is used to reduce the number of species and reaction steps that are required to simulate atmospheric chemical transformations.

The chemical mechanism used to represent atmospheric chemistry in RADM is based on a lumped species approach, in which specific chemical species with similar structures and reaction products are lumped into a single species class. All of these lumped species can then be represented by a single set of reaction statements. For example, several alkane species that have similar reaction rate constants with the hydroxyl radical ($OH^{\cdot}$) can be treated as an aggregated chemical class by the same reaction steps. This classification scheme considers the reaction products as well as the reaction rate constants.

Each of the nearly 600 individual chemical species represented in the hydrocarbon profiles was assigned a class identifier. This class identifier was used to aggregate the individual chemical species into a total of 32 representative hydrocarbon classes on the basis of common reactivity and reaction product formation. The 32 hydrocarbon class scheme was developed primarily to be consistent with the needs of the RADM; however, the classification scheme was implemented to provide more classes than were required by RADM. The classification scheme was designed to provide additional classification detail so that the 1985 NAPAP modelers' emissions inventory would be useful for applications other than for RADM.

The assignment of the individual chemical species to classes was accomplished by representatives from the RADM modeling community with input from other atmospheric chemists. A memorandum, dated 30 March 1988, that documents the assignment of hydrocarbon species to the 32 chemical classes represented in the 1985 NAPAP Emissions Inventory is presented as Appendix A. These classes are listed in Table 2-1.

Program PSPLIT

The development of speciation factor files in a format suitable for NAPAP applications was accomplished using a computer program called the Pollutant Splits Program (PSPLIT). The PSPLIT program was originally developed in 1983 as part of the software for the emissions processing in the Regional Model Data Handling System. The PSPLIT program was developed to provide a flexible data processing tool that could easily accommodate changes in the number or structure of the speciation files or the speciation methodology required for a particular application. Detailed information on the use of PSPLIT and the modifications made to facilitate its use with the 1985 inventory is contained in Section 3.

Three data files are required as input to PSPLIT. The Species-Profile file contains the weight percent contribution of each species to each profile. Each individual species is assigned to a reactivity class in the Species-Class file. Finally, profiles are matched to NAPAP emissions records using the SCC-Profile Index file. PSPLIT performs the appropriate processing steps to calculate the amount of total hydrocarbon that contributes to each class, for every source category in the inventory. The resulting "mole factors" are expressed in moles per kilogram, to so that when multiplied by the mass of total hydrocarbon from a source, they yield the number of moles of each class emitted. PSPLIT is also

TABLE 2-1. HYDROCARBON CLASSES REPRESENTED IN THE 1985 NAPAP MODELERS' EMISSIONS INVENTORY

Class number	Description
1	Methane
2	Ethane
3	Propane
4	Alkanes (0.25 - 0.50 reactive)[a]
5	Alkanes (0.50 - 1.00 reactive)
6	Alkanes (1.00 - 2.00 reactive)
7	Alkanes (> 2.00 reactive)
8	Alkane/aromatic mix
9	Ethene
10	Propene
11	Alkenes (primary)
12	Alkenes (internal)
13	Alkenes (primary/internal mix)
14	Benzene, halobenzenes
15	Aromatics (< 2.00 reactive)
16	Aromatics (> 2.00 reactive)
17	Phenols and cresols
18	Styrenes
19	Formaldehyde
20	Higher aldehydes
21	Acetone
22	Higher ketones
23	Organic acids
24	Acetylene
25	Haloalkenes
26	Unreactive
27	Others (< 0.25 reactive)
28	Others (0.25 - 0.50 reactive)
29	Others (0.50 - 1.00 reactive)
30	Others (> 1.00 reactive)
31	Unidentified
32	Unassigned

[a] Reactivity is defined with respect to rate constant range (with OH^-), 10^4 ppm^{-1} min^{-1}.

used to disaggregate NO_x emissions into NO and NO_2 components. The species profiles input to PSPLIT contain the weight fraction of NO and NO_2, which are carried through the program and become the speciation factors for these two components.

The development of the mole factors for hydrocarbons is dependent on the molecular weight of each of the species represented in the profiles. In some cases, the profiles contain pseudospecies that cannot be associated with any specific chemical structure. In these cases, a representative molecular weight was assigned to represent those species.

Class-Average Molecular Weights

Since the factors developed for the speciation of THC are expressed in units of moles per kilogram, the emissions for the 32 chemical classes are expressed in moles. It is often more convenient to express these emissions in tons than in moles. To convert the class-level emissions back to a mass basis, a file of "class-average molecular weights" was developed by taking a weighted average molecular weight for each class for each profile. The weighting factors were based on the moles of the individual species that are included in each class. Detailed information on the computer program used to create this file is presented in Section 3. The class average molecular weights file itself is listed in Appendix E.

Summary of Speciation Factor Processing

Speciation factors for the 1985 NAPAP Emissions Inventory are based on the revised and expanded speciation scheme described above. The output files from PSPLIT were reviewed and several profiles were checked by hand to ensure that the PSPLIT program executed correctly. The speciation factors were applied to the 1985 NAPAP Annual Emissions Inventory to produce hydrocarbon and NO_x class totals that can be used for application to RADM as well as other atmospheric process models. The emissions distributions developed as output from the Speciation Module were checked by summing the totals and comparing resolved totals to the annual VOC and THC emissions totals. All of these checks revealed that the PSPLIT program operated successfully. Additional information regarding quality assurance/quality control of the hydrocarbon speciation data can be found in Section 4.

HYDROCARBON PREPROCESSING

Data contained in the hydrocarbon species profiles are also used in the "preprocessing" of annual reported hydrocarbon data input to FREDS. The reported VOC emissions in NEDS are often based on emission factors from source tests. A common analytical procedure that is used to measure source emissions is based on flame ionization detection (FID). In FID detection, the response of the instrumentation is proportional to the number of carbon atoms in the sample. All hydrocarbon species that consist solely of hydrogen and carbon respond linearly to FID. Some oxygenated species do not respond linearly to FID detection. Formaldehyde, for example, does not respond at all to FID. In addition, some of the NEDS emissions are assumed to include estimates of methane in the reported VOC emissions, while in the NAPAP inventory, VOC is assumed to represent nonmethane hydrocarbons.

An analysis was performed to evaluate the emission factor development and the application of profiles to specific SCCs. For SCCs that have emission factors based on measurements performed by FID and are assigned speciation profiles that contain formaldehyde, the emissions of VOC were augmented for the contribution of formaldehyde. A similar augmentation was performed to account for unmeasured methane. The analyses were used to develop a hydrocarbon augmentation flag file which was used in the FREDS Hydrocarbon Preprocessor (HCPREP) of to adjust the reported VOC emissions and calculate the total hydrocarbon (THC) emissions. The speciation profiles specify the contribution of methane when methane is a component of the emissions. Therefore, the speciation profiles were applied to the THC emissions rather than to the VOC emissions. The Hydrocarbon Augmentation Flag File is presented in Appendix D.

PARTICULATE MATTER SPECIATION

Hydrocarbon and NO_x speciation factors are processed by PSPLIT into a format suitable for input to the FREDS Speciation Module. Speciation factors were developed independently for pollutants not handled by PSPLIT, and input to FREDS using an additional Speciation Factor File. For the 1985 NAPAP Modelers' Emissions Inventory, the Speciation Factor File (SFF) was used to speciate NEDS TSP emissions into 15 subcategories of particulate matter.

Specifications for the 1985 NAPAP Modelers' Emissions Inventory included requirements for TSP to be separated into component species based on alkalinity. Particle size is also an important factor in TSP transport mechanisms; therefore, particulates are "speciated" by both alkalinity class and size fraction. Each of the four alkaline dust species in the modeling inventory - calcium, magnesium, sodium, and potassium - is expressed in terms of 0-2.5 micron fraction, 2.5-10 micron fraction, and total species. In addition, TSP is speciated into three size ranges including 0-2.5, 2.5-6.0 and 6.0-10.0 micron components. TSP speciation factors are dimensionless weight fractions which are multiplied by TSP emissions to yield an estimate of the number of tons of each species class emitted. Table 2-2 lists the TSP speciation categories represented in the resolved inventory.

As in the case of hydrocarbon speciation, particulates are speciated using profiles representative of the process types in the inventory. An extensive review of particulate source test data was completed to support both the 1985 NAPAP inventory development and PM_{10} source apportionment studies.[7] This effort consisted of an analysis of the profiles in the Receptor Model Source Composition Library[8] and the development of new profiles based on the results of a literature search. The resulting database consists of 131 "original" profiles, 11 composite profiles (which represent groupings of several profiles for the

TABLE 2-2. PARTICULATE MATTER CLASSES REPRESENTED IN THE 1985 NAPAP MODELERS' EMISSIONS INVENTORY

Size Class Code[a]	Species SAROAD Code[b]	Variable Name	Description
	11101	TSP	Total Suspended Particulates (TSP)
10	11101	PM1	Total particulates, 0.0 - 2.5 microns
20	11101	PM2	Total particulates, 2.5 - 6.0 microns
40	11101	PM3	Total particulates, 6.0 - 10.0 microns
10	12111	CA1	Reactive calcium, 0.0 - 2.5 microns
30	12111	CA2	Reactive calcium, 2.5 - 10.0 microns
50	12111	CA3	Reactive calcium, total
10	12140	MG1	Reactive magnesium, 0.0 - 2.5 microns
30	12140	MG2	Reactive magnesium, 2.5 - 10.0 microns
50	12140	MG3	Reactive magnesium, total
10	12180	K1	Reactive potassium, 0.0 - 2.5 microns
30	12180	K2	Reactive potassium, 2.5 - 10.0 microns
50	12180	K3	Reactive potassium, total
10	12184	NA1	Reactive sodium, 0.0 - 2.5 microns
30	12184	NA2	Reactive sodium, 2.5 - 10.0 microns
50	12184	NA3	Reactive sodium, total

[a] Size class codes are defined as follows:

Code	Size Range (micron)
10	0.0 - 2.5
20	2.5 - 6.0
30	2.5 - 10.0
40	6.0 - 10.0
50	total

[b] Species SAROAD codes are defined as follows:

SAROAD	Species
12111	calcium (Ca)
12140	magnesium (Mg)
12180	potassium (K)
12184	sodium (Na)
11101	total suspended particulate (TSP)

same general category), 16 industry-specific average profiles, and an overall average profile. The industry-specific and overall average profiles were developed for use only when no other representative data were available. In particular, the "zero" profile was intended for use only with source categories characterized by zero or negligible TSP emission factors for which a state or other agency might have reported nonzero emissions.

For each profile, the following data were compiled:

> **Composition data** for four size ranges: 0.0-2.5 micron, 2.5-10.0 micron, 0-10.0 micron, and total particulate. These data are expressed as weight percent of the given size fraction occurring as a certain alkaline species.
>
> **Mass Fraction data** for the 0.0-2.5 micron, 0.0-6.0 micron, and 0.0-10.0 micron size ranges. These represent the fraction of total particulate mass contained within the specific size range.
>
> **Reactivity data** for the alkaline particulate species (Na, K, Ca, and Mg). The "reactive fraction" is defined as that fraction of each element which is present as an oxide, carbonate, carbide, or hydroxide. These are species in which the cation is readily dissociated and available for reaction with acidic solutions.

Each NEDS point and area source category was assigned a particulate speciation profile. Ideally, each source type should be represented by a unique speciation profile. Limitations on the amount of available source data, however, necessitated the application of profiles to source categories which are descriptively similar to categories for which speciation profiles were available.

The specific particulate species and size fractions desired for modeling applications were selected by personnel from the National Center for Atmospheric Research (NCAR) and EPA's Atmospheric Research and Exposure Assessment Laboratory (AREAL). Unlike other pollutants in the inventory, these classes cannot be uniquely defined using five-digit Storage and Retrieval of Aerometric Data (SAROAD) pollutant codes. To distinguish by both species and size fraction, a two-digit size class code was developed. The code is concatenated to the front of the species SAROAD code to create a unique seven-digit identifier. When input to FREDS, the two codes are interpreted as one for the purpose of TSP speciation.

Computer programs were developed to convert the generic TSP profile data into a format suitable for use with FREDS speciation software. The composition, mass fraction and reactivity data were combined to form particulate speciation factors via the equation:

$$SF_{X,Y,Z} = 0.01\ (WP_{X,Y,Z})\ (MF_{Y,Z})\ (RF_{X,Z})$$

where

$(WP_{X,Y,Z})$ = weight percent of size fraction Y occupied by species X, profile Z;
$(MF_{Y,Z})$ = mass fraction of total particulate occurring within size fraction Y, profile Z; and
$(RF_{X,Z})$ = reactive fraction of species X, profile Z.

Subsequent programs match these profile-level speciation factors with point and area source categories. A more complete description of TSP data processing appears in Section 3, and the speciation files themselves are presented in Appendix G.

CANADIAN PROCESSING

Hydrocarbons/NO$_x$

Hydrocarbon and NO$_x$ speciation was performed for the Canadian emissions data in the same way as for the U.S. data with the following minor exceptions. The hydrocarbon profile development was established for the United States area source categories. U.S. area source categories were matched to similar Canadian area source categories and the profile assignments were made to match as closely as possible. The Canadian inventory development methodology differs somewhat from the United States' methodology. Some categories routinely treated as point sources in the United States are treated as area sources in Canada. The assignment of profiles for similar United States point sources was used to match these nontraditional Canadian area source categories.

Environment Canada in cooperation with the Provincial governments provided estimates of the total hydrocarbon emissions for Canadian area sources. Since the methane component was already included in the annual emission estimates for Canadian area sources, there was no need to augment the estimates for methane. The same augmentation assumptions for the formaldehyde contributions that were applied to the U.S. data were used for the application of speciation profiles to the Canadian area source categories.

Environment Canada requested that NAPAP provide VOC estimates for several of the Canadian point sources. These emissions were calculated by the application of emission factors. The speciation profiles and augmentation methodologies were applied exactly as they were for the U.S. sources for Canadian point sources.

Particulates

Annual estimates of point and area source emissions for Canada are included in the 1985 Canadian NAPAP Emissions Inventory. For point sources, Environment Canada matched process level data to U.S. Source Classification Codes to enable speciation using the SCC-specific factors developed for the U.S. data. The Canadian point source data submittals contained several SCC process classifications which had not been used in the U.S. data and for which SCC-to-profile matches had not been developed. Therefore, Environment Canada requested that EPA make appropriate profile assignments for these SCCs. A listing of the additional SCCs and the profiles associated with them is presented in Appendix G. These assignments were appended to the point source SCC-profile index file prior to the generation of the Canadian point source Speciation Factor File.

Canadian area source data are categorized by a unique numbering system which could not be easily converted to U.S. area source categories. Instead, a separate SCC-profile file was developed to match Canadian area source categories to speciation profiles. These assignments are depicted in Table G-5.

Unlike U.S. data, the Canadian area source annual file contained emissions estimates for the reactive fractions of the four alkaline particulate species in addition to TSP. Environment Canada requested that these species be resolved by size fraction, rather than deriving all species/size fraction estimates from total TSP. This involved modifying the TSP speciation programs to generate speciation factors which represent only size fraction data. Since this can result in factors which equal unity, it was necessary to allow for the possibility of one digit to the left of the decimal in the Speciation Factor File. For Canadian area sources, the speciation factor format in the SFF was changed to accommodate Canadian area source processing. Canadian point sources were not affected by this change.

NATURAL SOURCE PROCESSING

Estimates of the total particulate mass and the mass of various alkaline species for limited size ranges were developed by NAPAP Task Group II. These estimates were divided into the appropriate size and reactivity fractions to provide estimates consistent with the anthropogenic particulate data. For the United States, data were available for three categories: unpaved roads; wind erosion; and dust devils. Because of the limited number of categories involved and the diversity of data sources, the speciation factor development programs were not used with natural source data. Instead, speciation factors were calculated directly and a Speciation Factor File was created manually. The factors applied to the NAPAP U.S. natural source particulate data are listed in Table 2-3.

Several source categories in the Canadian area source file representing dust from unpaved roads and agricultural wind erosion were reclassified as natural sources for consistency with U.S. data. Size fractions for these categories were available from the area source Speciation Factor File, and alkalinity data were obtained from the profile level reactivity file.

TABLE 2-3. SPECIATION FACTORS FOR U.S. NATURAL SOURCE PARTICULATES

Particulate Species	Reactive fraction	0.0 - 2.5 micron fraction	2.5 - 6.0 micron fraction	6.0 - 10.0 micron fraction	2.5 - 10.0 micron fraction
TSP	NA	0.0207	0.090	0.129	NA
Sodium	0.0	0.0207	NA	NA	0.2194
Potassium	0.0	0.0207	NA	NA	0.2194
Calcium	0.5	0.0207	NA	NA	0.2194
Magnesium	0.5	0.0207	NA	NA	0.2194

SECTION 3

SPECIATION DATA PROCESSING

PROGRAM PSPLIT

PSPLIT is a modular computer program written in the FORTRAN V computer programming language, which is used to generate hydrocarbon species factors in a format suitable as input to FREDS. It was originally developed on EPA's National Computer Center (NCC) UNIVAC 1100 system in Research Triangle Park, N.C., and now resides on the NCC's VAX cluster. Technical details concerning the preparation and execution of PSPLIT are found in the PSPLIT programmers guide. A copy of this guide and a listing of the PSPLIT computer code is included as Appendix B to this report.

There are three input files required by PSPLIT to generate aggregated hydrocarbon classes. Listings of the input files used in the development of the 1985 NAPAP inventory are included as Appendix C. The three input files are briefly discussed below:

1) The Hydrocarbon Profile File

This file represents the weight percent breakdown of the individual species that make up each profile. Each profile is identified by a profile identifier (PKEY). Each unique profile consists of a list of individual chemical compounds that are included in the profile, formatted as one record for each individual chemical compound. On each record are the species SAROAD code (Storage and Retrieval of Aerometric Data), the species name, the species weight percent, and the species molecular weight. The profiles are constructed so that the sum of the weight percents of the profile species is 100. Currently there are 313 profiles that are applied to speciate the SCC level hydrocarbon emissions.

2) SCC to Profile File

This file lists all of the point source SCCs or area source categories and their associated profile identifiers (PKEY). The file links each SCC to a specification profile. Currently, there are approximately 3200 point source SCCs and 110 area source categories for which speciation profiles have been assigned.

3) Species to Class File

This file lists all of the approximately 600 species used in the 313 profiles and a class assignment for each. Currently, PSPLIT is capable of grouping the species into as many as 32 aggregation classes.

The PSPLIT program calculates the mole fraction of the profile total hydrocarbons that contribute to each of the 32 allowed classes and divides by the profile average molecular weight to arrive at "mole factors" for each class in units of moles per kilogram THC. If a profile does not contain any of the species that make up a particular class, then that class results in a mole factor of zero. The PSPLIT output file, known as the Hydrocarbon Splits File, is then used by FREDS to process annual THC emissions in tons per year at the SCC level to produce the moles of organics for each of the 32 classes. The final class molar splits can then be treated independently or combined to form the representative organic classes used by chemical reaction mechanisms.

Sample Calculation

An illustration of the calculations performed by PSPLIT to develop mole factors is presented in Figure 3-1, using profile 1066 (styrene manufacturing) as an example. The first step in the calculation process is the determination of mole percents for each species in the profile. This is accomplished by dividing the species' weight percent by its molecular weight to yield moles of each species, summing the moles, and calculating species-level percentages. Implicit in this process is the use of a unit weight of 100 grams as a basis.

Average molecular weights are then calculated for each class in the profile. In cases where only one species contributes to a class, the class molecular weight and species molecular weight are equivalent. For profile 1066, two species contribute to class 15. The class average molecular weight is therefore determined by multiplying the mole fraction of each species by its molecular weight, and then dividing the sum of these "mole weights" by the sum of the mole fractions. The resulting class molecular weight is thus a molar weighted average of the species molecular weights.

In the final step, the class average molecular weights and class weight percents (i.e., the sum of the weight percents of the species in each class) are used in a manner similar to the first step to calculate class-level mole fractions. The class mole fractions are multiplied by the class molecular weights to obtain class mole weights. The sum of these mole weights, divided by the sum of the mole fractions (theoretically 1.00), yields the profile-average molecular weight (here 33.15). The class-level mole factors are then determined by dividing class mole fraction by the profile average molecular weight and converting to kilograms (i.e., multiplying by 1000). The mole factors are therefore expressed as *moles of species class per kilogram of total hydrocarbon emissions.*

Modifications to PSPLIT

PSPLIT was developed in 1983 as a part of the Regional Model Data Handling System (RMDHS), and was used as an adjunct to FREDS in the development of the 1980 NAPAP emissions inventory. It was necessary to expand the capabilities of the program PSPLIT for the application to the 1985 inventory. These modifications to PSPLIT were required to accommodate an increase in the number of profiles, an increase in the number of species included in the profiles and an increase in the number of hydrocarbon

Profile Number: 1066
SCC Assignment: 30120601

I. Species Mole Percents:

SAROAD	Class	Species	Molecular Weight	Weight Percent	Moles	Mole Percent
43201	1	Methane	16.04	21.73	1.355	45.458
43202	2	Ethane	30.07	6.53	0.217	7.287
43203	9	Ethylene	28.05	24.39	0.870	29.176
45201	14	Benzene	78.11	23.28	0.298	10.001
45202	15	Toluene	92.13	9.21	0.100	3.354
45203	15	Ethylbenzene	106.16	9.94	0.094	3.142
45220	18	Styrene	104.14	4.91	0.047	1.582
				100	2.980	100.00

II. Class-Average Molecular Weight (Class 15 shown):

SAROAD	Class	Species	Molecular Weight (MW)	Mole Percent	Mole Fraction (MF)	Mole Weight (MW x MF)
45202	15	Toluene	92.13	3.354	0.03354	3.090
45203	15	Ethylbenzene	106.16	3.142	0.03142	3.335
					0.06496	6.426

Class Molecular Weight = 6.426/0.06496 = 98.915

III. Class Mole Factors:

Class	Class MW	Weight Percent	Moles	Mole Percent (MP)	Mole Fraction (MF)	Mole Weight (MP x MW/100)	Mole Factor (MF/AMW) x 1000
1	16.04	21.73	1.355	45.458	0.455	7.291	**13.549**
2	30.07	6.53	0.217	7.287	0.073	2.191	**2.172**
9	28.05	24.39	0.870	29.176	0.292	8.184	**8.696**
14	78.11	23.28	0.298	10.001	0.100	7.812	**2.981**
15	98.915	19.15	0.194	6.496	0.065	6.426	**1.936**
18	104.14	4.91	0.047	1.582	0.016	1.648	**0.472**
		Profile Average Molecular Weight (AMW):				33.551	

Note: For clarity of presentation, all calculated numbers are rounded to three decimal places in this example.

Figure 3-1. Calculation of Mole Factors

classes. The specific modifications implemented to PSPLIT for the 1985 NAPAP emissions inventory development are summarized below:

1) The maximum number of species per profile was increased from 75 to 325.
2) The maximum number of species in all profiles was increased from 500 to 640.
3) The maximum number of SCC profile records was increased from 1800 to 4000.
4) The maximum number of hydrocarbon profiles was increased from 175 to 320.
5) The maximum number of hydrocarbon profile records was increased from 2000 to 4500.
6) The maximum number of species classes was increased from 30 to 32.
7) The output file format was changed from 4 characters to 5 characters to increase the precision of the mole factor values.

There were no changes to the operational aspects of the code other than to accommodate these expanded capabilities. The processing time required to develop a speciation output file did not increase significantly; however, the resulting processing does involve inefficient uses of computer memory. Improvements could be made to the code to relieve the strains on computer memory that were introduced by expanding the processing arrays to cover the increased limits itemized above; however, time constraints associated with the delivery of the resolved inventory precluded implementation of these changes.

PSPLIT Files

Three input files are required by PSPLIT and normal execution of the program produces six output files. The input files are the SCC to profile file, the hydrocarbon profile file and the species to class file. Three of the output files simply involve regeneration of the input files and are provided as a method to check on the operation and continuity of the program. The principal output file is a data file of the resulting hydrocarbon splits that can be used in further inventory processing steps.

The Hydrocarbon Splits File output from PSPLIT represents each SCC identifier, the class mole factors that can be applied to the annual THC emissions data to generate moles of each species class, and the fractional splits of NO_x into NO and NO_2. Two additional print files are available. One is a report file that can be used to verify the execution of the program and the other is the chemistry trace print file that can be used to trace the steps taken during the execution of PSPLIT.

The input files used to create the 1985 NAPAP Emissions Inventory Version 2 are listed in Appendix C. The Hydrocarbon Splits File, used directly by the Speciation Module of FREDS, is too large to be reproduced for this report. The file format for the Hydrocarbon Splits File is shown in Table 3-1.

TABLE 3-1. HYDROCARBON SPLITS FILE FORMAT

Record position		Column width	Format	Variable name	Description
First	Last				
Header Record No. 1					
1	5	5	I	CLASS1	Pseudo-SAROAD code for THC Class No. 1
6	10	5	I	CLASS2	Pseudo-SAROAD code for THC Class No. 2
11	15	5	I	CLASS3	Pseudo-SAROAD code for THC Class No. 3
16	20	5	I	CLASS4	Pseudo-SAROAD code for THC Class No. 4
21	25	5	I	CLASS5	Pseudo-SAROAD code for THC Class No. 5
26	30	5	I	CLASS6	Pseudo-SAROAD code for THC Class No. 6
31	35	5	I	CLASS7	Pseudo-SAROAD code for THC Class No. 7
36	40	5	I	CLASS8	Pseudo-SAROAD code for THC Class No. 8
41	45	5	I	CLASS9	Pseudo-SAROAD code for THC Class No. 9
46	50	5	I	CLASS10	Pseudo-SAROAD code for THC Class No. 10
51	55	5	I	CLASS11	Pseudo-SAROAD code for THC Class No. 11
56	60	5	I	CLASS12	Pseudo-SAROAD code for THC Class No. 12
61	65	5	I	CLASS13	Pseudo-SAROAD code for THC Class No. 13
66	70	5	I	CLASS14	Pseudo-SAROAD code for THC Class No. 14
71	75	5	I	CLASS15	Pseudo-SAROAD code for THC Class No. 15
76	80	5	I	CLASS16	Pseudo-SAROAD code for THC Class No. 16
81	113	33	-	--	Unused
114	115	2	I	TYPE	Record Type (=11)
Header Record No. 2					
1	5	5	I	CLASS17	Pseudo-SAROAD code for THC Class No. 17
6	10	5	I	CLASS18	Pseudo-SAROAD code for THC Class No. 18
11	15	5	I	CLASS19	Pseudo-SAROAD code for THC Class No. 19
16	20	5	I	CLASS20	Pseudo-SAROAD code for THC Class No. 20
21	25	5	I	CLASS21	Pseudo-SAROAD code for THC Class No. 21
26	30	5	I	CLASS22	Pseudo-SAROAD code for THC Class No. 22
31	35	5	I	CLASS23	Pseudo-SAROAD code for THC Class No. 23
36	40	5	I	CLASS24	Pseudo-SAROAD code for THC Class No. 24
41	45	5	I	CLASS25	Pseudo-SAROAD code for THC Class No. 25
46	50	5	I	CLASS26	Pseudo-SAROAD code for THC Class No. 26
51	55	5	I	CLASS27	Pseudo-SAROAD code for THC Class No. 27
56	60	5	I	CLASS28	Pseudo-SAROAD code for THC Class No. 28
61	65	5	I	CLASS29	Pseudo-SAROAD code for THC Class No. 29
66	70	5	I	CLASS30	Pseudo-SAROAD code for THC Class No. 30
71	75	5	I	CLASS31	Pseudo-SAROAD code for THC Class No. 31
76	80	5	I	CLASS32	Pseudo-SAROAD code for THC Class No. 32
81	113	33	-	--	Unused
114	115	2	I	TYPE	Record Type (=12)

(Continued)

TABLE 3-1 (Continued)

Record position First	 Last	Column width	Format	Variable name	Description
Speciation Record No. 1					
1	2	2	I	STATE	AEROS State Code
3	6	4	I	COUNTY	AEROS County Code
7	10	4	A	PLANT_ID	Plant Identification Code[a]
11	13	3	A	POINT_ID	Point Identification Code[a]
14	21	8	I	SCC	Code
22	26	5	F5.3[b]	TSF1	Speciation Factor, THC Class 1[c]
27	31	5	F5.3	TSF2	Speciation Factor, THC Class 2[c]
32	36	5	F5.3	TSF3	Speciation Factor, THC Class 3[c]
37	41	5	F5.3	TSF4	Speciation Factor, THC Class 4[c]
42	46	5	F5.3	TSF5	Speciation Factor, THC Class 5[c]
47	51	5	F5.3	TSF6	Speciation Factor, THC Class 6[c]
52	56	5	F5.3	TSF7	Speciation Factor, THC Class 7[c]
57	61	5	F5.3	TSF8	Speciation Factor, THC Class 8[c]
62	66	5	F5.3	TSF9	Speciation Factor, THC Class 9[c]
67	71	5	F5.3	TSF10	Speciation Factor, THC Class 10[c]
72	76	5	F5.3	TSF11	Speciation Factor, THC Class 11[c]
77	81	5	F5.3	TSF12	Speciation Factor, THC Class 12[c]
82	86	5	F5.3	TSF13	Speciation Factor, THC Class 13[c]
87	91	5	F5.3	TSF14	Speciation Factor, THC Class 14[c]
92	96	5	F5.3	TSF15	Speciation Factor, THC Class 15[c]
97	101	5	F5.3	TSF16	Speciation Factor, THC Class 16[c]
102	105	4	F4.4	HCHOWT	Weight Fraction Formaldehyde in Profile (dimensionless)
106	109	4	F4.3	TSF33	Speciation Factor for NO2 (dimensionless weight fraction)
110	113	4	F4.3	TSF34	Speciation Factor for NO2 (dimensionless weight fraction)
114	115	2	I	TYPE	Record Type (=21)
Speciation Record No. 2					
1	2	2	I	STATE	AEROS State Code
3	6	4	I	COUNTY	AEROS County Code
7	10	4	A	PLANT_ID	Plant Identification Code[a]
11	13	3	A	POINT_ID	Point Identification Code[a]
14	21	8	I	SCC	Code
22	26	5	F5.3[b]	TSF17	Speciation Factor, THC Class 17[c]
27	31	5	F5.3	TSF18	Speciation Factor, THC Class 18[c]
32	36	5	F5.3	TSF19	Speciation Factor, THC Class 19[c]
37	41	5	F5.3	TSF20	Speciation Factor, THC Class 20[c]
42	46	5	F5.3	TSF21	Speciation Factor, THC Class 21[c]
47	51	5	F5.3	TSF22	Speciation Factor, THC Class 22[c]
52	56	5	F5.3	TSF23	Speciation Factor, THC Class 23[c]

(Continued)

TABLE 3-1 (Continued)

Record position		Column width	Format	Variable name	Description
First	Last				
57	61	5	F5.3	TSF24	Speciation Factor, THC Class 24[c]
62	66	5	F5.3	TSF25	Speciation Factor, THC Class 25[c]
67	71	5	F5.3	TSF26	Speciation Factor, THC Class 26[c]
72	76	5	F5.3	TSF27	Speciation Factor, THC Class 27[c]
77	81	5	F5.3	TSF28	Speciation Factor, THC Class 28[c]
82	86	5	F5.3	TSF29	Speciation Factor, THC Class 29[c]
87	91	5	F5.3	TSF30	Speciation Factor, THC Class 30[c]
92	96	5	F5.3	TSF31	Speciation Factor, THC Class 31[c]
97	101	5	F5.3	TSF32	Speciation Factor, THC Class 32[c]
102	113	12	--		Unused
114	115	2	I	TYPE	Record Type (=22)

[a] For area source processing, these fields are left blank.

[b] Speciation factors are 5-digit numbers with an implied decimal point to the right of the second digit.

[c] Units are moles of the THC class per kilogram of total hydrocarbon.

PROGRAM MWAVG

Because PSPLIT calculates class mole factors in units of moles per kilogram, the final inventory emissions of hydrocarbon species are expressed on a mole basis. It is often convenient to express the hydrocarbon class emissions in the same units (tons) as the rest of the inventory data. Since the species makeup of a given class can vary from profile to profile (and hence from one source category to the next), the use of a single "global" molecular weight for each class can introduce significant error in emissions calculations. Therefore, it is necessary to have a file of class-level molecular weights by source category. The program MWAVG was constructed to generate such a file.

MWAVG is a SAS program which accepts the same input files as PSPLIT and creates a data set containing class-average molecular weights for each species profile. These data are then merged with SCC-profile assignments to yield a molecular weight average file at the source category level. The calculation methodology used by MWAVG is similar to that of PSPLIT, an example of which is shown in Figure 3-1. To create the class-average molecular weights, MWAVG reads the profile-level data and calculates the number of moles of each species in each class (by dividing the weight percent of each species by its molecular weight). Mole percents are then calculated by dividing the moles of each species by the total number of moles represented in each profile. After merging the species-class assignment file, the mole percents are summed by a species class. "Class percents" are calculated as species mole percents divided by the sum of the mole percents within a class. The class mole percent is the weight factor used to calculate the average molecular weight of each class in each profile. A listing of the SAS code for MWAVG and a listing of the resulting average molecular weights by species class is presented in Appendix E.

TSP SPECIATION SOFTWARE

Computer programs were developed to convert the generic TSP profile data into a format suitable for use with the NAPAP speciation software. Descriptions of these programs appear in the following sections and the source code for the program is provided in Appendix F.

Specifies-Profile File (Program TSP1)

The first step in the development of NAPAP-compatible speciation factors is the combination of the composition, mass fraction, and reactivity data to represent the reactive fraction of a given species within a given size fraction. For example, to calculate the speciation factor representing the reactive fraction of species X within size fraction Y for profile Z ($SF_{X,Y,Z}$), the following equation is used:

$$SF_{XYZ} = 0.01\ (WP_{XYZ})\ (MF_{YZ})\ (RF_{XZ})$$

where

WP_{XYZ} = weight percent of size fraction Y occupied by species X, profile Z;

MF_{YZ} = mass fraction of total particulate occurring within size fraction Y, profile Z; and

RF_{XZ} = reactive fraction of species X, profile Z.

As an example of particulate speciation factor calculation, profile 28301 (Steel Production - Sinter Plant) was examined with respect to reactive calcium emissions in the O-2.5 micron range. The weight percent of calcium occurring in this range is 0.550. The mass fraction of total particulate within the 0-2.5 micron interval is given as 0.27. In addition, the reactivity fraction of calcium associated with profile 28301 is 0.75. The resulting speciation factor is 0.01 (0.550) (0.27) (0.75) = 1.114×10^{-3}, a figure which corresponds to the value in Table G-1.

A computer program called TSP1 was developed to create speciation factors at the profile level using a stepwise procedure as described below.

The profile composition data were formatted as one record for each species for each profile. Species are referenced by a "species number," which normally corresponds to the atomic number of the particulate species. Using the species number, the program creates four subset files, each containing data for one of the four alkaline species of interest to NAPAP. At the same time, percentage contributions to the size classes of interest are converted to fractions. The four component files are then sorted by profile and merged to create a profile level intermediate data set containing composition information.

In the next program step, the mass fraction data are converted to the size ranges of interest. The input mass fractions are cumulative (0.0 - 2.5 micron, 0.0 - 6.0 micron, and 0.0 - 10.0 micron); 2.5 - 6.0 and 6.0 - 10.0 micron ranges are calculated by difference. The program checks the calculated mass fractions to ensure that no negative values have been generated. Finally, the mass fraction data are merged with the composition data by profile and multiplied together. The resulting output file is printed for manual review.

The last step of TSP1 reads the reactivity data, checks for invalid fractions (less than 0 or greater than 1), sorts by profile number and merges reactivity information with the output of the previous step to create the final speciation factors. This final file, containing 15 speciation factors for each particulate speciation profile, is stored to a permanent data set and also printed for review.

Speciation Factor File (Program TSP2)

The "species-profile" file generated by TSP1 was used as input to a second program, which matches the speciation factors to point source SCCs or area source categories using SCC-profile index files and writes the resulting data set in FREDS-compatible EBCDIC format. For the 1985 NAPAP Inventory, TSP2 is executed separately for U.S. point and area sources. The species-profile file and SCC-profile matches are input and sorted by profile. The files are then match-merged, retaining one set of factors for each source category. Prior to final EBCDIC output, TSP2 sorts the new master file by source category for consistency with other files used in the FREDS Speciation Module.

Particulate Speciation Files

The species profile file developed using TSP1, as well as the SCC profile index files used for the 1985 NAPAP inventory, are presented in Appendix G. A complete listing of original composition data is not included, since most of the species data are not used with the inventory. This information has been documented elsewhere[7].

An example of Speciation Factor File format is shown in Table 3-2. The SFF can accommodate 20 speciation factors, 10 per line, and is formatted much like the PSPLIT file. Each speciation factor is expressed as an eight-digit integer which is read into the FREDS Speciation Module with all digits to the right of the decimal. Seven digits are allowed for the species class codes in the file header to allow for particulate size class (2 digits) and SAROAD code (5 digits) combinations.

SUMMARY OF SPECIATION DATA PROCESSING

The input data and programs described above were used to generate particulate speciation factors used for Versions 1 and 2 of the 1985 NAPAP Modelers' Emissions Inventories. Quality control checks were performed during all phases of Speciation Factor File development as well as on the speciated emissions files created by the FREDS Speciation Module, to ensure proper allocation of particulate data. A more detailed description of quality control activities performed on the particulate speciation files can be found in Section 4.

TABLE 3-2. SPECIATION FACTOR FILE FORMAT

Record Position First	 Last	Column Width	Format	Variable Name	Description
Header	**Record**	**No. 1**			
1	7	7	I	CLASS1	Size Class/SAROAD code combination for TSP class 1
8	14	7	I	CLASS2	Size Class/SAROAD code combination for TSP class 2
15	21	7	I	CLASS3	Size Class/SAROAD code combination for TSP class 3
22	28	7	I	CLASS4	Size Class/SAROAD code combination for TSP class 4
29	35	7	I	CLASS5	Size Class/SAROAD code combination for TSP class 5
36	42	7	I	CLASS6	Size Class/SAROAD code combination for TSP class 6
43	49	7	I	CLASS7	Size Class/SAROAD code combination for TSP class 7
50	56	7	I	CLASS8	Size Class/SAROAD code combination for TSP class 8
57	63	7	I	CLASS9	Size Class/SAROAD code combination for TSP class 9
64	70	7	I	CLASS10	Size Class/SAROAD code combination for TSP class 10
71	103	33	-	-	Unused
104	105	2	I	TYPE	Record Type (=11)
Header	**Record**	**No. 1**			
1	7	7	I	CLASS11	Size Class/SAROAD code combination for TSP class 11
8	14	7	I	CLASS12	Size Class/SAROAD code combination for TSP class 12
15	21	7	I	CLASS13	Size Class/SAROAD code combination for TSP class 13
22	28	7	I	CLASS14	Size Class/SAROAD code combination for TSP class 14
29	35	7	I	CLASS15	Size Class/SAROAD code combination for TSP class 15
36	103	68	-	-	Unused
104	105	2	I	TYPE	Record Type (=12)

(continued)

TABLE 3-2 (continued)

Record Position					
First	**Last**	**Width**	**Column Format**	**Name**	**Variable Description**
Speciation Record No. 1					
1	2	2	I	STATE	AEROS State Code
3	6	4	I	COUNTY	AEROS County Code
7	10	4	A	PLANT_ID	Plant Identification Code[a]
11	13	3	A	POINT_ID	Point Identification Code[a]
14	21	8	I	SCC	Source Category Code
22	29	8	F8.8[b]	TSF1	Speciation Factor for Class 1[c]
30	37	8	F8.8	TSF2	Speciation Factor for Class 2[c]
38	45	8	F8.8	TSF3	Speciation Factor for Class 3[c]
46	53	8	F8.8	TSF4	Speciation Factor for Class 4[c]
54	61	8	F8.8	TSF5	Speciation Factor for Class 5[c]
62	69	8	F8.8	TSF6	Speciation Factor for Class 6[c]
70	77	8	F8.8	TSF7	Speciation Factor for Class 7[c]
78	85	8	F8.8	TSF8	Speciation Factor for Class 8[c]
86	93	8	F8.8	TSF9	Speciation Factor for Class 9[c]
94	101	8	F8.8	TSF10	Speciation Factor for Class 10[c]
102	103	2	-		Unused
104	105	2	I	TYPE	Record Type (=21)
Speciation Record No. 2					
1	2	2	I	STATE	AEROS State Code
3	6	4	I	COUNTY	AEROS County Code
7	10	4	A	PLANT_ID	Plant Identification Code[a]
11	13	3	A	POINT_ID	Point Identification Code[a]
14	21	8	I	SCC	Source Category Code
22	29	8	F8.8[b]	TSF11	Speciation Factor for Class 11[c]
30	37	8	F8.8	TSF12	Speciation Factor for Class 12[c]
38	45	8	F8.8	TSF13	Speciation Factor for Class 13[c]
46	53	8	F8.8	TSF14	Speciation Factor for Class 14[c]
54	61	8	F8.8	TSF15	Speciation Factor for Class 15[c]
62	103	42	-	Unused	
104	105	2	I	TYPE	Record Type (=22)

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[a] For area source files, these fields are left blank.
[b] Speciation factors are 8-digit numbers with all 8 digits to the right of an implied decimal point.
[c] Speciation factors are dimensionless weight fractions.

SECTION 4
QUALITY ASSURANCE AND QUALITY CONTROL

The activities associated with quality assurance (QA) and quality control (QC) consisted primarily of reviewing the THC and TSP speciation factors to ensure that they were internally consistent within specific SCC categories. The discussion that follows is organized in two main sections which identify the checks that were made, the results of the checks and the corrective actions taken for THC and TSP profiles, respectively.

QUALITY ASSURANCE OF HYDROCARBON FILES

The hydrocarbon speciation profiles are constructed from the three PSPLIT input files. Each of the PSPLIT input files was subjected to quality control checks to ensure that processing problems would not be encountered and that the profiles would not result in adding or deleting emissions during allocation. All of the quality checks performed on the individual PSPLIT input files and the checks that were performed on the relationships between files are listed below.

Checks on the Hydrocarbon Profile File

Each hydrocarbon speciation profile was reviewed to ensure that the weight percent fractions summed to 100 percent within a tolerance of ±0.001. A total of 59 of the original speciation profiles had weight percent sums that failed this test. The maximum total weight percent was 100.028 percent and the minimum was 99.991 percent. Normalization factors were developed and applied to these 59 profiles to ensure that all of the hydrocarbon speciation profiles summed to 100 percent.

Each hydrocarbon speciation profile was checked to determine if any duplicate species SAROAD codes were present. This check revealed 251 observations having the same profile number and SAROAD code as at least one other record in the file. The total weight percents for the affected profiles, however, did not exceed the tolerance limits of the check described above. The weight percents of the duplicate records were summed and the duplicates were replaced with a single entry for each SAROAD code in a profile.

The profiles were checked to determine the frequency of profiles with more than 100 species, as well as the specific species that were contained in more than 50 individual profiles. Twelve profiles contained more than 100 species. These profiles were checked and verified by comparison with the Air Emissions Species Manual. Nine hydrocarbon species were included in more than 50 profiles. These species and the number of profiles in which they are included is summarized in Table 4-1. These species all represent pollutants which are frequently encountered, and it is not unusual to find them in a large percentage of the speciation profiles. Sixteen of the profiles have an entry for unidentified hydrocarbons, SAROAD code 99999, that is used to obtain a weight percent of 100.

TABLE 4-1. VOC SPECIES INCLUDED IN MORE THAN 50 HYDROCARBON SPECIES PROFILES

Species name	Number of profiles
methane	82
benzene	76
ethane	71
toluene	68
propane	65
heptane	57
hexane	54
n-butane	53
isomers of butylbenzene	51

Checks on the SCC-Profile File

The SCC-Profile Files for point sources and area sources were generated separately. Similar checks were made on each of the components. Two point source SCCs had duplicate entries. The profile assignments were identical in the duplicate records; therefore, the duplicate records were deleted from the file.

The frequency of assignment of individual profiles to SCCs was checked and five profiles were assigned to more than 50 SCCs. The overall average default profile (profile 0) was assigned to 1,029 point source SCCs. In most cases, the 0 profile was used for SCCs that are not significant VOC emissions sources; however, nine SCCs which were assigned the 0 speciation profile have emissions in excess of 1,000 TPY. The 0 profile was assigned to 8 area source categories all of which are 0 or very minor VOC emissions sources. The nine point source SCCs that were assigned the 0 profile that have emissions over 1,000 TPY and the total national emissions are listed in Table 4-2. Each of these SCCs is listed in the NEDS emission factor file with an emission factor for VOC equal to 0.0.

TABLE 4-2. POINT SOURCE SCCs USING THE 0 HYDROCARBON SPECIES PROFILE

SCC Code	VOC Emissions (TPY)	Number of Records
30100506	1,901	58
30100508	1,248	19
30100509	4,221	60
30102501	11,048	5
30104202	1,989	20
30200782	1,816	148
30300315	3,300	19
30700101	2,007	22
31000201	1,500	253
39000699	2,150	1728

Checks on the Species Class Assignment File

1) The entry for methylethylpentanoate (SAROAD code 43475) was listed with a molecular weight of 0.00. The molecular weight for this species was checked and replaced with a molecular weight of 144.22.

2) Two entries were listed with SAROAD code 43350. One species was named dimethyl ether and the other was listed as dimethylether. The entry with name dimethyl ether was deleted from the file.

3) There were three entries for SAROAD code 43568. Two were duplicates with the name methoxymethylbutanone, with molecular weight 116.00 and the third was listed as nonenone with molecular weight 138.25. The correct species assignment for SAROAD code 43568 is nonenone with molecular weight 138.25. The correct SAROAD code assignment for methoxymethylbutanone is 43569 with molecular weight 116.00. One record for methoxymethylbutanone was deleted and the remaining record was assigned the correct SAROAD code.

4) An analysis of molecular weight outliers was performed. A species entry named aliphatics was assigned a molecular weight of 14.03 and classed in the unassigned category. A molecular weight of 100.00 was substituted for this species entry. A species entry for limonene was included with a molecular weight of 13,624. The correct molecular weight is 136.24. This correction was included in the final file.

Cross Checking Between Files

A check was conducted to determine if any species were listed in the Hydrocarbon Speciation Profile File but were missing from the Species Class Assignment File. Four SAROAD code identifiers for species were included in profiles that were not found in the Species Class File. The resolution of these problems are summarized below:

1) SAROAD code 45151 was listed in the Hydrocarbon Speciation Profile File but was not found in the Species Class File. This was identified as an error, and the entries in the Hydrocarbon Profile File were changed to SAROAD code 43151.

2) SAROAD code 98024 was listed in the Hydrocarbon Speciation Profile File but was not found in the Species Class File. The identifier for the occurrences of this specie in the Hydrocarbon Speciation Profile File were changed to SAROAD 99999 unidentified hydrocarbon.

3) SAROAD code 98080 was listed in the Hydrocarbon Speciation Profile File but was not found in the Species Class File. This problem was identified as an error and the entries in the Hydrocarbon Speciation Profile File were changed to SAROAD code 43322 for 1,4 butanediol, and an entry for this specie was included in the Species Class File with a molecular weight of 90.12.

4) SAROAD code 99098 was listed in the Hydrocarbon Speciation Profile File but was not found in the Species Class File. This problem was discovered to be an error and the entries in the Hydrocarbon Speciation Profile File were changed to SAROAD code 99908 for 2,3 dimethyloctane, and an entry for this specie was included in the Species Class File with a molecular weight of 142.28.

5) An additional 30 species were listed in the Species Class File that were not referenced in any of the profiles in the Hydrocarbon Speciation Profile File. These species were deleted from the Species Class File.

6) The profile assignments included in the SCC Profile File were checked to ensure that the profiles were included in the Hydrocarbon Speciation Profile File. Four profiles were referenced in the SCC Profile File for point sources that were not matched to any profile in the Hydrocarbon Speciation Profile File. The source descriptors were reviewed and alternate profile assignments with valid hydrocarbon speciation profiles were made for the affected source categories. The resolution of these profile assignments is summarized in Table 4-3.

Two profiles were found in the Hydrocarbon Speciation Profile File but were never assigned to any of the point or area source categories. These profiles were deleted from the Hydrocarbon Speciation Profile File.

During processing of the inventory data for modeling applications, additional problems were discovered related to the application of profile assignments to specific SCCs. NAPAP added an additional 10 area source categories for VOC that were not developed through the NEDS methodology. The profile assignments for several of these categories were identified as errors, and the correct assignments were made prior to processing the modelers' inventory.

The profile assignment to the additional area source category for hazardous waste treatment, storage and disposal facilities (TSDF) was based on test data from solid waste incineration. The TSDF category includes storage and disposal of all kinds of waste materials from chemical processing, pharmaceutical manufacture, petroleum refining, agricultural wastes, etc. The profile assignment contained a significant contribution of methane which clearly was not representative of the overall category. The profile assignment was changed to the overall average 0 profile to reduce the contribution of methane to the category and to spread out the emissions to a wide range of species that would approximate the overall nature of the emissions from the category.

TABLE 4-3. RESOLUTION OF INVALID SPECIATION PROFILE ASSIGNMENTS

SCC	Original Profile Assignment	Substitute Profile Assignment	Comments
40100104	86	1193	decision based on SCC 40100102 for stoddard solvent
40200923	86	225	decision based on SCC 40200920 for mineral spirits
49000101	86	1190	decision based on SCC 40100102 for stoddard solvent
40602234	1100	1190	SCC is incorrect and was changed to 40600234 the assignment of the profile is based on SCCs 40600231 and 40600242
40706401	1157	9039	decision based on SCC 40706497 and 40706498
40706402	1157	9039	decision based on SCC 40706497 and 40706498
40722897	9045	221	decision based on SCC 40722803 and 40722804
40722898	9045	221	decision based on SCC 40722803 and 40722804

The speciation profile that was generated by NAPAP for diesel exhaust emissions did not contain entries for specific species. The profile included entries for a series of compounds referenced only as C-2 through C-43 compounds. It was not possible to assign these referenced species groups to hydrocarbon classes for input to RADM. The profile applied to diesel exhaust emissions for the 1980 NAPAP Emissions Inventory was substituted for this profile. The profile was modified to add a component for high molecular weight (carbon numbers greater than 10) aromatic compounds that were determined to be present in diesel exhaust in recent unpublished EPA research.

Although the speciation profile assignment quality ratings are based on a qualitative assessment, it is instructive to review the distribution of the various hydrocarbon class totals by quality rating factor. Table 4-4 lists the class totals that were generated by profiles with each of the five quality ratings. Of primary concern to the model applications for atmospheric chemistry studies are the classes considered to be most reactive. The RADM modeling team has indicated that the 10 most reactive classes in the 32 class scheme are classes 7, 8, 10, 11, 12, 13, 16, 17, 18 and 20.

QUALITY ASSURANCE OF TSP FILES

The TSP speciation profiles were constructed from 5 separate files. The TSP speciation profile file contains the profile listings and gives the weight percents of each of several individual components to the TSP totals. The TSP fraction file gives the mass fractions for each specie in the profiles for each of the size classes. The reactivity file gives the fraction of each species that is considered reactive for atmospheric chemistry applications. Reactive in this context means that the mass exists as an oxide, carbonate, carbide or hydroxide. Finally, two remaining files (the point and area files) associate each of the point source SCCs and the area source categories with a particular TSP speciation profile. The quality assurance activities for TSP speciation concentrated on review and resolution of problems that were identified with these files. These files were used to construct the TSP speciation profiles in a format that was consistent with the operation of FREDS. The development of the TSP profile files proceeded through three stages. At each stage, the files were reviewed to identify inconsistencies that would interfere with the proper execution of FREDS.

Checks on the TSP Speciation Files

The TSP speciation profile file was checked to determine if there were any duplicate records. The overall default profile, profile 0, was duplicated in its entirety. The duplicate listings were deleted from the file. Profiles 23103 and 23202 did not contain entries for magnesium.

The fraction and reactivity files contained only 159 profiles although the TSP speciation profile lists 161 profiles. The profile numbers 11202 and 29501 were missing from the fraction and reactivity files. The

TABLE 4-4. HYDROCARBON CLASS EMISSION PERCENTAGES BY SPECIATION PROFILE QUALITY RATING

Species Class	Species Class Name	Emissions Percentage by Quality Rating A	B	C	D	E	Total Emissions (TPY)
HC1	methane	0.0	19.5	17.9	35.9	26.8	2,776,081
HC2	ethane	0.0	15.5	24.5	29.6	30.3	476,210
HC3	propane	0.0	16.2	12.1	9.3	62.4	519,869
HC4	alkanes (0.25-0.5 react)[a]	0.0	36.4	28.6	15.5	19.5	1,715,686
HC5	alkanes (0.5-1.0 react)	0.0	38.9	26.4	8.9	25.8	2,443,449
HC6	alkanes (1.0-2.0 react)	0.0	47.5	19.3	14.1	19.0	2,585,836
HC7[b]	alkanes (>2.0 react)	0.0	37.9	7.7	31.1	23.3	524,882
HC8[b]	alkanes/aro mix	0.0	0.0	11.9	75.9	12.2	248,887
HC9	ethene	0.0	19.0	20.4	44.8	15.8	1,223,604
HC10[b]	propene	0.0	4.3	16.3	40.4	39.1	210,399
HC11[b]	alkenes primary	0.0	31.2	21.5	25.4	22.0	342,099
HC12[b]	alkenes internal	0.0	45.9	27.8	4.6	21.6	736,025
HC13[b]	alkenes pri/int mix	0.0	59.7	6.4	20.3	13.6	187,329
HC14	benzene/halobenzenes	0.0	5.4	2.3	55.8	36.5	847,232
HC15	aromatics (<2.0 react)	0.0	53.8	16.8	22.2	7.2	1,468,671
HC16[b]	aromatics (>2.0 react)	0.0	60.9	21.0	9.5	8.5	2,144,754
HC17[b]	phenols/cresols	0.0	2.8	1.6	0.1	95.5	50,172
HC18[b]	stryenes	0.0	2.9	0.1	4.4	92.5	141,747
HC19	formaldehyde	0.0	20.1	19.2	25.6	35.2	351,053
HC20[b]	higher aldehydes	0.0	37.2	10.6	0.3	51.9	179,728
HC21	acetone	0.0	13.1	8.8	31.9	46.1	111,403
HC22	higher ketones	0.0	22.0	9.5	27.1	41.4	165,688
HC23	organic acids	0.0	1.1	0.0	2.0	96.9	61,751
HC24	acetylene	0.0	19.8	36.6	25.8	17.9	232,405
HC25	haloalkenes	0.0	80.9	0.9	0.0	18.2	383,666
HC26	unreactive	0.0	40.3	0.0	5.7	54.0	307,303
HC27	others (<0.25 react)	0.0	2.2	4.2	17.6	76.0	133,981
HC28	others (0.25-0.5 react)	0.0	4.6	1.9	82.5	11.1	1,239,199
HC29	others (0.5-1.0 react)	0.0	13.3	2.4	72.5	11.9	1,043,478
HC30	others (>1.0 react)	0.0	6.1	1.9	61.0	31.0	398,326
HC31	unidentified	0.0	42.2	49.1	6.3	2.4	1,028,902
HC32	unassigned	0.0	12.5	2.4	2.4	82.7	568,165

[a] Reactivity is defined in terms of rate constant range (with OH^-), 10^4 ppm^{-1} min^{-1}.
[b] One of the 10 most reactive classes.

field for the profile number in the reactivity file was blank. These errors were due to problems associated with the computer files rather than the data itself. The computer files were corrected and recreated prior to the final speciation file preparation.

The point and area files were checked to identify duplicate records and SCCs for which no profile was assigned. There were eighteen cases of multiple profile assignments for point source SCCs. A list of these SCCs and their final profile assignments is presented in Table 4-5.

Two SCCs were reported with duplicate profile assignment; these duplicates were deleted. In cases where an SCC was assigned to two different profiles, the profile with the highest quality rating was used. If quality ratings were identical, the selection of profiles was accomplished using engineering judgment based on analyses of the profile and its underlying sample measurements.

The SCC file listings were compared to the annual inventory to ensure that a TSP speciation profile was matched to every SCC. Five SCCs summarized below were found without a matching profile assignment. These problems were brought to the attention of EPA and were corrected by assigning appropriate profiles.

SCC 10200104—External combustion boiler, industrial, anthracite: 30 observations; less than 10 TPY of TSP emissions

SCC 30100910—Chemical Manufacturing, soap/detergents, specialty, general: 4 observations; 15 TPY of TSP emissions

SCC 30502599—Mining, nonmetallic, minerals, sand/gravel: 43 observations; 1330 TPY of TSP emissions

SCC 31088804—Oil & gas production, fugitive emissions, not classified: one observation; 0 TPY of TSP emissions

SCC 40600234—Petroleum marketing, marine vessels, gasoline barges, loading: 7 observations; 585 TPY of TSP emissions

The corrected files were processed to construct TSP speciation files suitable for use by FREDS. The resulting profile files were subjected to additional quality assurance checks. In 20 of the profiles, the sum of the 0.0 - 2.5 micron fraction and the 2.5 - 10.0 micron fraction for one or more of the reactive species was greater than the total species fraction. These apparent discrepancies resulted from the use of different databases for the size fraction calculations and the total species calculations. To avoid the occurrence of discrepancies of this nature, the total fraction data were replaced with the minimum fractions that would account for the presence of the mass represented by the finer size fraction data.

TABLE 4-5. DUPLICATE TSP PROFILE ASSIGNMENTS

SCC	Profile	Quality rating	Final Assignment	Comments
10201302	13501	D	13501	13501 has a higher quality rating
	17120	E		
30190001	90002	E	90002	Delete duplicate record
	90002	E		
30300101	29101	E	29102	Equivalent data quality rating
	29102	E		
30300102	29101	E	29102	Equivalent data quality rating
	29102	E		
30300103	29101	E	29102	Equivalent data quality rating
	29102	E		
30300104	29101	E	29102	Equivalent data quality rating
	29102	E		
30300105	29101	E	29102	Equivalent data quality rating
	29102	E		
30300106	29101	E	29102	Equivalent data quality rating
	29102	E		
30300107	29101	E	29102	Equivalent data quality rating
	29102	E		
30300108	29101	E	29102	Equivalent data quality rating
	29102	E		
30300109	29101	E	29102	Equivalent data quality rating
	29102	E		
30300110	29101	E	29102	Equivalent data quality rating
	29102	E		
30300111	29101	E	29102	Equivalent data quality rating
	29102	E		
30300199	29101	E	29102	Equivalent data quality rating
	29102	E		
30301002	29302	C	29302	Equivalent data quality rating
	29305	C		
30500999	25201	E	25406	25406 has a higher quality rating
	25406	D		
30700703	22101	D	22101	Equivalent data quality rating
	22102	D		
30988804	90016	E	90016	Delete duplicate record
	90016	E		

It is important to note that the particulate speciation profiles are generally based on a limited number of source test observations. Qualitative indicators of the quality of a profile assignment to a source category are available for U.S. point and area sources. A breakdown of emissions based on these quality ratings is provided for each TSP species class in Table 4-6.

SUMMARY

The completion of the quality assurance procedures outlined in this section and the resolution of the problems that were identified resulted in the development of speciation profiles for hydrocarbons, NO_x and TSP that were complete and internally consistent. The completeness of the profile data was necessary to avoid the loss of emissions during the speciation step of FREDS processing. The checks and corrective measures to ensure internal consistency were implemented to avoid confusion in the use of FREDS output files and to maintain comparative emissions totals between the different data elements. With the resolution of all of the problems identified during the quality assurance checks, FREDS compatible speciation profiles were generated which allowed the successful execution of the Speciation Module of FREDS.

TABLE 4-6. PARTICULATE CLASS EMISSIONS PERCENTAGES BY SPECIATION PROFILE QUALITY RATING

SPECIES CLASS	CLASS NAME	EMISSIONS PERCENTAGES BY QUALITY RATING					TOTAL EMISSIONS (TPY)
		A	B	C	D	E	
TSP	Total Suspended Particulate	0.0	0.0	8.7	58.3	33.1	8,382,968
PM1	Particulate 0.0-2.5 microns	0.0	0.0	9.1	61.9	29.0	5,569,347
PM2	Particulate 2.5-6.0 microns	0.0	0.0	10.9	53.0	36.1	731,855
PM3	Particulate 6.0-10.0 micron	0.0	0.0	9.2	52.7	38.1	442,564
CA1	Calcium 0.0-2.5 microns	0.0	0.0	0.8	53.5	45.7	30,473
CA2	Calcium 2.5-10.0 microns	0.0	0.0	1.1	70.8	28.1	33,191
CA3	Calcium total	0.0	0.0	1.0	58.9	40.1	78,608
K1	Potassium 0.0-2.5 microns	0.0	0.0	0.0	63.6	36.4	50,282
K2	Potassium 2.5-10.0 microns	0.0	0.0	0.4	23.4	76.2	4,682
K3	Potassium total	0.0	0.0	0.1	56.2	43.7	60,287
MG1	Magnesium 0.0-2.5 microns	0.0	0.0	0.0	46.4	53.6	1,293
MG2	Magnesium 2.5-10.0 microns	0.0	0.0	0.0	4.4	95.6	313
MG3	Magnesium total	0.0	0.0	0.0	28.7	71.3	2,179
NA1	Sodium 0.0-2.5 microns	0.0	0.0	29.6	29.8	40.5	14,582
NA2	Sodium 2.5-10.0 microns	0.0	0.0	21.3	44.4	34.3	4,102
NA3	Sodium total	0.0	0.0	24.8	32.5	42.8	24,651

SECTION 5
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APPENDIX A

FINAL SPECIFICATIONS FOR HYDROCARBON SPECIES CLASSIFICATION

This appendix contains a copy of a memorandum from Paulette Middleton of the National Center for Atmospheric Research (NCAR), explaining the assignment of hydrocarbon species to reactivity classes. The tabular data summary contained herein was used to create the Species-Class assignment file input to PSPLIT, which is provided in its entirety in Appendix C (Table C-2).

MEMO

To: Joan Novak
From: Paulette Middleton Paulette

Date: March 30, 1988

Subject: UPDATE on VOC CATEGORIES and ALLOCATIONS
for the NAPAP 1985 EMISSIONS INVENTORY

Last week you expressed a strong interest in receiving our proposed VOC categories and allocations for the NAPAP 1985 emissions inventory. The enclosed list was developed in collaboration with Bill Stockwell and Bill Carter.

As we discussed, the list is almost ready for review by the larger chemical modeling community as represented by the group that received my November 9, 1987 and January 15,1988 memos on VOC aggregation. Before sending out the list, we had hoped to include an analysis of emissions partioning into the major source type categories for each of the 600 individual chemicals. I understand that this information is forthcoming from the emissions processing group. Until we can include that analysis and obtain additional feedback from our collegues, I do not consider this to be the final recommended list. I do think we are close enough to pass the list on to you to facilitate your discussions with the groups responsible for implementing our recommendations.

The list includes aggregation of the 600 individual chemicals into 50 categories. After much deliberation we arrived at 50 categories as the optimum based on chemical reactivities important to regional acid rain, emission strengths of individual chemicals, other chemical considerations such as importance to stratospheric chemistry, and potential short term changes in emissions estimates such as increases in methanol in areas implementing fuel switching.

Our earlier discussions led us to assume that it would be possible to retain 50 categories in the emissions processing. This is very desireable from the standpoint of flexibility in future use of the inventory for multiple purposes. Hence, we strongly recommend the larger number of categories.

While we stress the need for the 50 categories, I do appreciate the potential computer software problems you outlined on Friday. As I understand it, we may be somehow locked into 32 categories as a maximum due to earlier software development decisions. As promised, Bill Stockwell, Bill Carter and myself have suggested a further condensation of the 50 categories to 32. This information also is included on the attached list. In addition, I have noted an order of priority of additional categories if some number between 32 and 50 is feasible.

Given the 32-50 dilemma, I have two suggestions. In the short term, if we are held to 32 categories, I would encourage the emissions processing group to make the raw data readily and easily accessible to the modeling community. A reprocessing of the VOC emissions to accomodate future modifications in the chemical mechanisms, resulting from new findings and/or new model applications, may be needed. Second, I suggest a reexamination of the software design for future emissions processing. A more flexible, modular coding may have averted the current situation.

I hope this information helps your ongoing activities to get the best possible 1985 inventory. We appreciate all of your efforts. Please call if you need clarification on the list. It is not in its polished form yet!

End of Memo

cc: Frank Benkowski
Bill Carter
Julius Chang
Bill Stockwell

VOC ALLOCATIONS BASED ON EMISSIONS AND CHEMISTRY *

SAROAD CODE	SPECIES NAME (IF AVAILABLE)	EMISSIONS mTons/Yr US	Based (50) CATEGORIES Feb-88	NOTES ASSGN	OH rate const 1.E4/ppm min	SOURCE TYPES
43201	Methane	2834618.33	1		<0.01	
43202	Ethane	459725.45	2		0.04	
43204	Propane	124275.04	3		0.18	
43212	N-butane	1083227.94	4		0.38	
43214	Iso-butane	266413.82	5		0.35	
90021	Methylpropane	28270.19	5		0.35	
43291	2,2-Dimethylbutane	19511.47	5		0.27	
43221	Iso Pentane	604473.29	6		0.59	
43220	N-pentane	341412.34	6		0.58	
43250	2,2,4-Trimethylpentane	160674.26	6		0.69	
43122	Isomers of Pentane	81717.76	6		0.59	
43144	C5 Paraffin	22304.30	6		0.59	
43254	Isooctane	7901.88	6		0.69	
43231	Hexane	345255.47	7		0.79	
43229	2-Methylpentane	161908.56	7		0.80	
43230	3-Methyl Pentane	100590.09	7		0.80	
43105	Isomers of Hexane	62717.76	7		0.80	
43276	2,3-Dimethylbutane	62278.52	7		0.80	
43242	Cyclopentane	34103.75	7		0.83	
90060	Dimethylbutane	24438.72	7		0.80	
90026	Methylpentane	18780.58	7		0.80	
43232	Heptane	455622.32	8		1.00	
43277	2,4-Dimethylbutane	110441.36	8		1.26	
43262	Methylcyclopentane	104882.43	8		1.04	
43233	Octane	97659.75	8		1.20	
43280	2,3,3-Trimethylpentane	90176.84	8		1.26	
43295	3-Methylhexane	85497.79	8		1.06	
43248	Cyclohexane	71143.54	8		1.24	
43247	2,4-Dimethylpentane	66784.31	8		1.06	
43235	Nonane	41076.82	8		1.41	
43141	C8 Paraffin	40970.02	8		1.26	
43297	4-Methylheptane	37768.77	8		1.26	
43298	3-Methylheptane	31543.68	8		1.26	
90028	Methylhexane	29182.76	8		1.06	
43296	2-Methylheptane	17099.80	8			
43106	Isomers of Heptane	14220.50	8		1.06	
90081	Ethylhexane	12780.83	8		1.26	
43107	Isomers of Octane	11777.97	8		1.26	
43252	2,3,4-Trimethylpentane	11588.03	8		1.26	
90067	Dimethylhexane	10001.44	8		1.26	
90092	Trimethylpentane	7254.23	8		1.26	
43287	2,2-Dimethylhexane	5695.05	8		1.26	
90094	Trimethylheptane	5655.94	8		1.76	

90062	Dimethylpentane	3840.47	8	1.26
90045	Methylheptane	3734.40	8	1.26
43142	C7 Paraffin	426.72	8	
43278	2,5-Dimethylhexane	219.44	8	1.26
43109	Isomers of Decane	177613.49	9	1.76
43115	C-7 Cycloparaffins	173311.10	9	1.51
43261	Methylcyclohexane	149099.79	9	1.50
43108	Isomers of Nonane	110730.79	9	1.55
43241	N-Undecane	82401.63	9	1.82
90005	2,5 Dimethylheptane	59322.37	9	1.55
99911	3,4 Dimethyloctane	59181.17	9	1.76
98059	Dimethylcyclohexane	39513.22	9	1.80
98033	2,2,5-Trimethylhexane	38588.68	9	1.55
43238	N-Decane	30402.96	9	1.61
43150	C10H18	26403.85	9	1.76
90009	2,4,5-Trimethylheptane	20821.52	9	1.76
43126	C2 Cyclohexane	17125.22	9	1.80
43288	Ethylcyclohexane	16606.19	9	1.89
43135	C10 Paraffin	13166.73	9	1.76
90104	Methyloctane	12999.51	9	1.55
43116	C-8 Cycloparaffins	12810.08	9	1.79
90003	2,4 Dimethylheptane	9388.82	9	
90047	Methylnonane	9086.24	9	1.76
98058	Trimethylcyclopentane	8108.69	9	1.80
90002	2,3,5-Trimethylhexane	7787.16	9	1.55
98091	Dimethylheptane	7285.51	9	1.55
90064	Dimethylcyclopentane	7158.25	9	1.51
90070	Dimethyloctane	5789.65	9	1.76
99910	2,4 Dimethyloctane	5605.79	9	1.76
43136	C9 Paraffin	5120.63	9	1.55
98057	Ethylcyclopentane	4564.34	9	1.51
90016	4-Methyloctane	2826.10	9	1.55
90082	Ethylmethylhexane	2273.36	9	1.55
90015	3-Methyloctane	2246.39	9	1.55
90087	Ethyldimethylpentane	1386.84	9	
90115	Trimethylehexane	1376.29	9	
90008	2-Methyloctane	1090.68	9	
90120	Propylcyclohexane	1062.85	9	
90077	Ethyloctane	1005.37	9	
90069	Dimethylethylcyclohexane	960.12	9	
99909	2,6 Dimethyloctane	507.25	9	
43260	N-Pentadecane	226004.46	10	2.65
99918	2-Methyldecane	90897.76	10	2.11
98062	Diethylcyclohexane	47850.21	10	2.35
43255	N-Dodecane	39805.77	10	2.03
43110	Isomers of Undecane	25355.54	10	2.11
43258	N-Tridecane	22842.02	10	2.24
43259	N-Tetradecane	21469.13	10	2.44
98060	Trimethylcyclohexane	17775.95	10	2.06

43129	C4 Substituted Cyclohexan	17125.22	10	2.35
43127	C3 Cyclohexane	11794.04	10	2.06
43111	Isomers of Dodecane	10021.69	10	2.31
90083	Ethylmethylcyclohexane	8561.89	10	2.06
43155	Isomers of Heptadecane	6660.80	10	
90030	Hexadecane	6254.54	10	
90048	Methyldecane	6166.50	10	2.11
90049	Methylundecane	3689.89	10	2.31
90033	Cyclopentylcyclopentane	3333.35	10	
43156	Isomers of Octadecane	3050.99	10	
43113	Isomers of Tetradecane	2937.23	10	2.73
90076	Dimethylnonane	2933.89	10	2.10
43130	C5 Substituted Cyclohexan	2861.20	10	
90072	Methylpropyclyclohexane	2692.20	10	
90096	Trimethyloctane	2653.24	10	2.10
90017	Methylcyclooctane	2391.32	10	
43131	C6 Substituted Cyclohexan	2144.74	10	
90101	Butylcyclohexane	1754.84	10	
98063	N-Pentylcyclohexane	1690.53	10	2.62
43467	C4 Substituted Cyclohexan	1636.80	10	
90127	Nonadecane	1604.11	10	
90080	Ethylmethylcyclopentane	1575.14	10	
43117	C-9 Cycloparaffins	1359.97	10	2.06
43114	Isomers of Pentadecane	977.82	10	2.93
90074	Dimethyldecane	876.03	10	
90097	Trimethyldecane	861.52	10	
90098	Tetramethylcyclopentane	657.59	10	
46753	Decalin	632.06	10	
90085	Ethylmethyloctane	613.64	10	
90090	Ethylpropylcyclohexane	599.64	10	
90128	Isopropylcyclohexane	587.22	10	
46748	Methyldecalin	427.93	10	
43137	C16 Branched Alkane	313.29	10	
43133	Paraffins (C16-C34)	278.29	10	
90110	Diethylmethylcyclohexane	257.63	10	
90055	Pentylcyclohexane	223.62	10	
90111	Isopropylmethylcyclohane	223.62	10	
90102	Methylpropylnonane	172.58	10	
90086	Ethylbicycloheptane	106.68	10	
43112	Isomers of Tridecane	88.64	10	
90031	N-Heptadecane	21.19	10	
45101	Naphtha	210835.38	11	1.16-5.30
43118	Mineral Spirits	34265.61	11	1.16-5.30
43119	Lactol Sprirts	550.71	11	1.16-5.30
43203	Ethylene	1267387.32	12	1.30
43205	Propene	444094.18	13	3.82
43213	Butene	134105.69	14	4.56
43224	1-Pentene	90210.69	14	5.12
43245	1-Hexene	30295.79	14	5.12

43441	Methyl Methacrylate	18643.27	14	
43223	3-Methyl-1-Butene	15749.88	14	4.61
98082	Ethylheptene	13564.58	14	5.12
98054	2,4,4-Trimethyl-1-Penten	12568.29	14	5.12
43438	Ethyl Acrylate	3208.42	14	4.56
98090	Methylheptene	2591.77	14	5.12
43215	Isobutylene	2164.93	14	7.47
90022	Methylpropene	1493.52	14	
43225	2-Methyl-1-Butene	1391.65	14	7.47
43440	Butyl Acrylate	1181.60	14	
90014	1-Decene	1166.31	14	
90032	1-Undecene	1014.50	14	
43265	Octene	640.59	14	5.12
43269	1-Nonene	530.30	14	
98040	2-Methyl-1-Pentene	40.29	14	5.12
43218	1,3-butadiene	175270.37	15	9.71
43273	Cyclohexene	124736.55	15	9.90
43228	2-Methyl-2-Butene	83112.26	15	12.63
43226	Trans-2-Pentene	61677.52	15	9.24
43216	T-2-butene	51682.19	15	9.24
43217	CIS-2-butene	46763.24	15	9.24
43284	2-Methyl-2-Pentene	41945.21	15	13.20
43227	Cis-2-Pentene	38372.59	15	21.00
43292	Cyclopentene	34146.28	15	9.84
90042	T-3-Hexene	23143.92	15	9.24
43285	2-Hexene	18978.89	15	
43256	A-Pinene	13028.56	15	7.73
43257	B-Pinene	8514.59	15	11.38
43283	C-3-Hexene	7639.01	15	
43275	2-Methyl-1,3-Butadiene	6630.44	15	
43272	Methylcyclopenetene	5818.82	15	9.24
98083	Trimethyldecene	3868.55	15	9.24
90065	Dimethylcyclopentene	3307.08	15	
90039	Methylhexadiene	2667.00	15	
90053	D-Limonene	1976.27	15	
90046	Methylcyclohexene	1493.52	15	
90034	T-2-Nonene	1231.89	15	
98035	C-2-Hexene	1087.20	15	9.25
90068	Dimethylhexadiene	1066.80	15	
90079	Ethylcyclopentene	640.08	15	
90093	Trimethylpentadiene	533.40	15	
90091	Tetramethylcyclobutene	427.38	15	
90027	Methylcyclopentadiene	426.72	15	
90103	Pentadiene	426.72	15	
98034	T-2-Hexene	361.63	15	9.24
43243	Isoprene	329.42	15	14.64
43293	4-Methyl-T-2-Pentene	225.38	15	9.24
90041	Methylcyclohexadiene	213.36	15	
90066	Nonadiene	210.11	15	

90117	Limonene	201.86	15	
90024	Methylbutadiene	106.68	15	
90099	Octatriene	106.68	15	
43270	3-Methyl-T-2-Pentene	46.66	15	9.24
98041	3-Heptene	14.80	15	9.24
90013	C-2-Octene	14.08	15	
43121	Isomers of Pentene	46858.22	16	5.12,9.24
43125	C10 Olefins	46753.53	16	5.12,9.24
43120	Isomers of Butene	23615.40	16	4.56,7.47
43143	C5 Olefin	20380.78	16	5.12,9.24
43286	Dimethylhexene	12848.12	16	
43568	Nonenone	12435.86	16	
90025	Methylpentene	9494.51	16	1.55
90056	Hexene	4267.19	16	
43138	C-8 Olefins	4114.57	16	
90061	Dimethylbutene	3200.40	16	
43264	Heptene	3001.33	16	5.55
43124	C9 Olefins	2969.21	16	
43146	C11 Olefin	1554.46	16	
90029	Methylhexene	1007.73	16	
90107	Methyldecene	778.68	16	
90023	Methylbutene	640.08	16	
90095	Trimethylhexene	587.85	16	
90001	Dodecene	409.92	16	
43289	C6 Olefins	336.13	16	5.12,9.24
90078	Ethylpentene	320.04	16	
90100	Nonene	320.04	16	
90109	Propylheptene	257.63	16	
90075	Ethyloctene	229.67	16	
90106	Methylnonene	171.26	16	
43294	C7 Olefins	165.56	16	5.12,9.24
43147	C12 Olefin	148.54	16	
43123	Terpenes	1.37	16	.11,7.73
45201	Benzene	542480.63	17	0.19
45202	Toluene	1264496.65	18	0.90
45203	Ethylbenzene	137850.73	19	1.10
99915	Isobutylbenzene	43965.44	19	0.90
45209	N-Propylbenzene	40108.17	19	0.97
45108	Isomers of Propylbenzene	18207.83	19	0.90
45245	C5-Alkylbenzene	18179.38	19	0.90
45240	Propylbenzene	10768.37	19	0.90
45216	S-Butylbenzene	9171.43	19	0.97
45455	Butyl Benzoate	5693.33	19	
45210	Cumene (Isopropyl Benzene	4167.46	19	
45235	Butyl Benzene	2043.87	19	
45247	C6-Alkylbenzene	1210.18	19	
45231	Pentyl Benzene	416.16	19	
45215	Tert-Butylbenzene	164.60	19	0.90
45204	O-Xylene	257029.83	20	2.16

45206	P-Xylene	213304.60	20	2.23
90010	M-xylene and P-xylene	169179.81	20	3.59
45102	Isomers of Xylene	132393.51	20	3.59
99912	1-Methyl-3-Ethylbenzene	85889.46	20	3.59
45205	M-Xylene	58341.84	20	3.60
45105	Isomers of Butylbenzene	55744.61	20	3.59
45217	1,2 Diethylbenzene	49342.68	20	3.59
45218	M-Diethylbenzene	48835.43	20	3.59
45238	Ethyltoluene	38707.63	20	3.59
99917	1-Methyl-3-Isopropylbenze	30351.37	20	3.59
45212	M-Ethyltoluene	25369.67	20	3.59
45456	Butylisopropylphthalate	23037.76	20	
45452	Dibutyl Phthalate	18135.86	20	
99913	1-Methyl-2-Ethylbenzene	16817.38	20	3.59
99916	1-Methyl-3N-Propylbenzen	14773.50	20	
45601	Phthalic Anhydride	9368.19	20	
45104	Isomers of Ethyltoluene	3310.56	20	3.59
45106	Isomers of Diethylbenzene	3225.97	20	3.59
45451	Dimethyl Phthalate	1229.63	20	
45236	Disopropyl Benzene	308.88	20	
45211	O-Ethyltoluene	48.18	20	2.16
45208	1,2,4-Trimethylbenzene	194389.48	21	5.87
45207	1,3,5-Trimethylbenzene	178830.38	21	9.16
45107	Trimethylbenzene	58102.61	21	9.16
45225	1,2,3-Trimethylbenzene	54711.95	21	4.89
45243	Ethyldimethylbenzene	13231.59	21	
45244	Tetramethylbenzene	10990.49	21	9.16
45300	Phenol	26733.46	22	4.20
46210	Creosote	16984.02	22	
45304	C5-Alkylphenol	534.02	22	
45303	C4-Alkylphenol	420.43	22	
45605	Cresol	308.88	22	
45330	Phenols	126.24	22	
45311	C9 Phenols	57.62	22	
45310	C8 Phenols	13.99	22	
45801	Chlorobenzene	28958.77	23	0.14
45805	O-Dichlorobenzene	17587.30	23	
45807	P-Dichlorobenzene	12459.56	23	0.05
45808	Dichlorobenzenes	346.87	23	
45830	Trichlorobenzenes	109.67	23	
45220	Styrene	53601.99	24	.90,3.82
45221	Methyl Styrene	28783.53	24	.90,3.82
45248	C4-Alkylstyrene	746.76	24	
45228	Ethyl Styrene	325.05	24	
45501	Benzaldehyde	12355.00	25	1.76
45502	P-Tolualdehyde	6219.30	25	
45110	C10 Aromatic	161465.98	26	.9,3.59,9.16
98044	Indane	48580.42	27	4.99
46701	Napthalene	17540.31	27	3.11

46702	Methyl Naphthalenes	15460.58	28	7.68
46711	C2 Alkyl Indan	7721.71	28	
46747	Methylindan	5654.70	28	
46750	Dimethylindan	4572.31	28	
46746	C2-Alkylnapthalene	1066.80	28	
46755	Trimethylindan	640.08	28	
46754	Ethylindan	426.72	28	
46703	Dimethyl Napthalene	39.62	28	
43502	Formaldehyde	319862.84	29	1.95
43503	Acetaldehyde	81373.12	30	2.25
43505	Acrolein	17614.78	30	
45503	2-Furfural	16984.02	30	
90043	Methylhexanal	9814.55	30	
43504	Propionaldehyde	3976.96	30	
43510	Butyraldehyde	3776.50	30	
43520	Total C2-C5 Aldehydes	1893.25	30	
43515	Crotonaldehyde	1601.65	30	
43512	Hexanal	452.69	30	
43511	Isobutyraldehyde	363.85	30	
98056	Isovaleraldehyde	4.69	30	
43551	Acetone	210276.13	31	
43552	Methyl Ethyl Ketone	108830.92	32	
43563	2-Methyl-3-Hexanone	44772.40	32	
43560	Methyl Isobutyl Ketone	27782.55	32	
43564	Heptanone	9882.89	32	
43567	Tetramethylpentanone	2707.41	32	
43561	Cyclohexanone	1010.91	32	
43565	Dimethylcyclobutanone	876.59	32	
43559	Methyl Butyl Ketone	767.95	32	
43562	Methyl Amyl Ketone	433.46	32	
43513	Glyoxal	5077.77	33	1.73
43514	Methyl Glyoxal	4219.90	33	2.63
43404	Acetic Acid	19836.37	34	0.13
43408	Palmitic Acid	8835.60	34	
43409	Adipic Acid	6724.42	34	
45401	Xylene Base Acids	1359.08	34	1.76
45402	Benzoic Acid	1156.14	34	
43403	Formic Acid	1010.37	34	
43407	Acrylic Acid	369.67	34	
43405	Propionic Acid	329.42	34	
45403	Terephthalic Acid	78.45	34	
43410	Hexadecanoic Acid	18.35	34	
45404	Dimethylethylbenzoicacid	18.35	34	
43206	Acetylene	363820.63	35	
43301	Methylalcohol	40190.95	36	
43302	Ethylalcohol	689099.11	37	0.43
43304	Iso-Propyl Alcohol	537721.87	38	0.91
43817	Perchlorethylene	352918.27	39	
43824	Trichloroethylene	133145.59	40	0.34

43814	1, 1, 1-Trichloroethane	130865.08	41	
43802	Dichloromethane	72590.25	42	0.02
43815	Ethylene Dichloride	35544.59	42	0.34
43812	Ethyl Chloride	12143.71	42	0.06
43844	Trifluoromethane	5270.47	42	
43840	Chlorodifluoromethane	2768.14	42	
43819	Methyl Bromide	2673.43	42	
43801	Methyl Chloride	928.49	42	
43803	Chloroform	569.93	42	
43820	1, 1, 2 - Trichloroethane	363.87	42	
43821	Trichlorotrifluoroethane	32325.79	43	
43843	Hexafluoroethane	6952.56	43	
43823	Dichlorodifluoromethane	6136.33	43	
43811	Trichlorofluoromethane	4811.84	43	
43804	Carbon Tetrachloride	1649.82	43	
43845	Chlorotrifluoromethane	932.25	43	
43839	Tetrafluoromethane	587.00	43	
43842	Chloropentafluoroethane	278.69	43	
43841	Dichlorotetrafluorethane	250.53	43	
43934	Carbon Sulfide	49876.42	44	0.03
43933	Carbonyl Sulfide	16625.20	44	0.01
43433	Ethylacetate	33627.53	45	0.25
43432	Methylacetate	15353.74	45	0.02
43601	Ethylene Oxide	5182.49	45	0.01
43602	Propylene Oxide	1878.18	45	0.08
43309	Tert-Butyl Alcohol	342.56	45	0.16
43444	Isopropyl Acetate	56673.01	46	0.45
43350	Dimethylether	55645.04	46	0.44
43435	n-Butyl Acetate	180256.73	47	0.63
43434	N-Propyl Acetate	49979.66	47	0.62
43860	Vinyl Chloride	39422.84	47	0.97
43704	Acrylonitrile	19842.03	47	0.70
43459	C5 Ester	15023.94	47	0.70
43209	Methylacetylene	12321.18	47	0.89
43305	N-Butyl Alcohol	10731.76	47	0.94
43451	Isobutyl Isobutryate	6944.24	47	0.98
43303	N-Propyl Alcohol	1745.36	47	0.78
43446	Isobutyl Acetate	1659.95	47	0.79
43367	Glycol Ether	102081.90	48	1.13
43369	Propylene Glycol	56125.81	48	1.76
43308	Butyl Cellosolve	50773.15	48	2.87
43370	Ethylene Glycol	18644.11	48	1.13
43281	1-Butyne	12983.28	48	1.17
43314	S-Butyl Alcohol	9722.56	48	1.38
43282	2-Bytyne	9187.86	48	
43208	Propadiene	7203.73	48	1.35
43351	Ethyl Ether	7038.76	48	1.97
43469	Butoxyethoxyethanol Aceta	5934.41	48	
43311	Cellosolve	4512.64	48	2.29

43377	Carbitol	3865.73	43	
43452	Cellosolve Acetate	3056.44	48	2.72
90036	Pentyne	1376.82	48	
43368	Glycol	1170.94	48	1.13
43337	Butoxyethoxyethanol	1045.98	48	
43306	Isobutyl Alcohol	1002.28	48	1.40
43317	Cyclohexanol	943.55	48	
43331	Dimethylpentanol	752.37	48	
43371	Hexylene Glycol	437.59	48	2.67
43310	Methyl Cellosolve	320.38	48	1.64
43378	Methyl Carbitol	320.38	48	
43379	Butyl Carbitol	320.38	48	
98106	Ethylisopropyl Ether	115.19	48	2.48
43463	Methyl C14 Ester	17.95	48	
43461	Methyl C12 Ester	3.96	48	
43465	Methyl C19 Ester	3.96	48	
43721	Ethylamine	2.46	48	4.05
43740	Trimethylamine	2.46	48	8.90
43460	Methyl C11 Ester	1.98	48	
43462	Methyl C13 Ester	1.98	48	
43466	Methyl C20 Ester	1.98	48	
99999	Unidentified	1357513.13	49	
90019	C6H1803S13	18275.08		
43776	Hexamethylenediamine	16035.24		
43570	Alenene Ketone	11794.04		
43145	C5 Paraffin/Olefin	11524.71		
43453	Vinyl Acetate	9607.66		
45701	Aniline	6573.31		
43822	Trimethylfluorosilane	6284.34		
90020	C8H2404S14	6121.55		
43862	Chloroprene	5865.15		
43837	Ethylene Dibromide	5730.47		
43128	C5 Cyclohexane	5387.91		
43430	Methylformate	4097.39		
99098		3768.14		
43472	Dimethylpentanediicate	3214.43		
45703	2,2 Dichloronitroaniline	2739.36		
43456	Methyl Stearate	2561.67		
43457	Methylal	2166.08		
45477		2150.29		
46112	Phenyl Isocyanate	2067.92		
43454	Methyl Palmitate	2032.77		
43604	Acetic Anydride	1906.80		
45241	4-Phenyl-1-Butene	1884.07		
99933	Denaturant	1709.71		
43140	C7-C16	1698.99		
45232	Diphenyl Ethane	1691.76		
43132	Aliphatics	1689.67		
45242	T-1-Phenylbutene	1666.68		

43603	Maleic Anhydride	1555.51
43477	Dimethylpentanedioate	1486.39
43148	C9H16	937.09
90126	Eicosane	865.17
90105	Propenylcyclohexane	829.56
43777	Ethanolamine	822.56
45731	Toluene Diisocyanate	698.61
45470	Di-C8 Alkyl Phthalate	657.84
43474	Methylmethylpropenoate	641.36
46751	Dihydronapthalene	640.08
43458	Substituted C9 Ester (C12)	633.58
45109	C3/C4/C5 Alkylbenzenes	613.59
45740	Total Aromatic Amines	581.05
90038	Cis-1,4 Dimethylcyclohexa	579.71
90071	Dimethylundecane	578.29
43374	Dipropylene Glycol	545.47
90125	Heneiscosane	540.87
90089	Ethyldimethylcyclohexane	538.05
45246	C5-Alkylbenzene (Unsat.)	533.40
46114	4-Methylaniline	483.31
90051	Myrcene	462.24
43395	C7H120	426.72
45111	C10H12	426.72
90052	B-Phellandrene	417.51
43450	Dimethyl Formamide	405.64
43778	Ethyleneamines	365.56
43863	Epichlorohydrin	342.56
98024		342.56
90073	Methylisopropylcyclohexan	342.52
46102	Anthraquinone	329.50
45750	Piperylene	329.42
90011	Methylallene	329.42
43838	Propylene Dichloride	322.30
43373	Diethylene Glycol	320.38
90054	Pentenyne	320.04
90058	Hexadienal	320.04
90050	Camphene	314.00
43437	Methyl Acrylate	313.81
43468	Isobutyl Acrylate	313.81
43455	Methyl Myristate	292.28
45702	Nitrobenzene	290.65
43376	Methyl T-Butyl Ether	275.20
43902	Ethyl Mercaptan	275.20
46202	Octahydroindene	268.51
43271	3,5,5-Trimethylhexane	262.12
45705	Bromodinitrobenzene	257.73
45226	Biphenyl	222.26
90044	Methylheptyne	213.36
90059	Heptadienal	213.36

90063	Dimethylpentene	213.36
90084	Ethylheptane	213.36
43473	Ethylhexanoate	201.86
90130	Caryophyllene	198.34
45320	Dimethylbenzylalcohol	178.15
45233	Ethyl-Phenyl-Phenyl-Ethan	161.24
43476	Dimethylhexanedioate	146.80
90122	Tetramethylhexane	146.80
90037	Hexyne	144.93
43334	Methylheptanol	126.40
90108	Methyldodecane	114.18
98037	1-Methylcyclohexene	111.80
43332	Dimethyloctanol	108.28
46115	Dimethylnaphthyridine	106.68
46749	Methyldihydronaphthalene	106.68
46752	Dimethylindene	106.68
43397	Trimethylcyclohexanol	95.27
90113	Pentylidlenecyclohexane	95.27
43780	Dimethyl Alkyl Amines	93.21
46201	1,4-Dioxane	91.75
43318	2-Ethyl Hexanol	89.25
46601	Tetramethylthiourea	87.98
43950	Octamethylcyclotetrasiloxa	80.46
43333	Dimethylheptanol	72.10
43335	Methoxyethoxyethanol	72.10
45706	N-Phenylaniline	72.10
43151	$C_{11}H_{20}$	65.26
43566	Trimethylcyclopentanone	64.64
45151		64.64
43475	Methylethylpentanoate	54.14
43650	Oxygenates	52.42
43835	1-Chlorobutane	48.78
46708	Phenanthrene	46.00
43951	Siloxane	43.39
98080		35.72
45806	M-Dichlorobenzene	35.48
43153	$C_{10}H_{16}$	33.09
43336	Octanol	33.09
90112	Dimethyloctyne	33.09
90118	Octahydropentalene	33.09
43313	1-Ethoxy-2-Propanol	32.53
43330	Isoamyl Alcohol	31.85
46602	Benzothiazole	31.55
90114	Dimethylbutycyclohexane	31.55
45229	Divinyl Benzene	30.46
45227	Methyl Biphenyl	25.01
43321	2-Ethyl-1-Hexanol	22.13
46705	Acenaphthylene	19.72
43134	Paraffins/Olefins (C12-C1	16.22

43312	2-(2-Butoxyethoxy)-Ethan	15.18
43320	Diacetone Alcohol	15.18
43836	3-(Chloromethyl)-Heptane	12.07
46710	Fluoranthene	9.86
46713	Pyrene	9.04
43464	Methyl C15 Ester	7.93
46103	Aminoanthraquinone	7.93
46707	Fluorene	7.39
46715	Chrysene	6.57
45704	Bromodinitroanaline	5.95
45604	Furfuryl Alcohol	5.81
46712	Indene	5.18
43372	Dibutyl Ether	4.67
45454	Dipropyl Phthalate	3.96
45831	Tetrachlorobenzenes	3.84
46706	Acenaphthene	3.29
46714	Benzo(g,h,i) Fluroranthene	3.29
46717	Benzo (b) Fluoranthene	3.29
43391	2-Butyltetrahydrofuran	2.92
46110	Methylenebis(C6H4NCO)	1.87
46111	4,4'-Methylene Dianiline	0.62
43470	Methyl Dodecanoate	0.38
45230	Di(Ethylphenyl) Ethane	0.13

SAROAD CODE. Identifies the individual chemicals or groups of chemicals.
SPECIES NAME. Apparent duplications should not result in emission douple counting.
EMISSIONS. Annual total emissions for the contigiuous US given in metric tons per year.
CATEGORIES. Assignments completed February 1988.
NOTES. Qualifiers for the analysis.
??RECK. Need to double check assignment. Assumptions may not be applicable.
OH rate constant. Rate constant of chemical with OH at normal atmospheric conditions. Units are in 10,000/ppm/min.
SOURCE TYPES. Major types responsible for the emissions. (to be completed later)
eg 1. Autos
2. Industry.....

Summary

50 Basis CATEGORIES	CATEGORY NAME	CATEGORY	PERCENT OF	50 co. verted to 32 CATEGORIES 32
1	Methane	2834618.33	12.18	1
2	Ethane	459725.45	1.98	2
3	Propane	124275.04	0.53	3
4	n-Butane	1083227.94	4.66	4
5	Alkanes (.25-.50 react.)	314195.48	1.35	4
6	Alkanes (.50-.75 react.)	1218483.83	5.24	5
7	Alkanes (.75-1.00 react.)	810073.45	3.48	5
8	Alkanes (1.00-1.50 react.)	1367045.21	5.88	6
9	Alkanes (1.50-2.00 react.)	1124728.63	4.83	6
10	Alkanes (>2.00 react.)	604813.95	2.60	7
11	Alkane/Aromatic Mix	245651.70	1.06	8
12	Ethene	1267387.32	5.45	9
13	Propene	444094.18	1.91	10
14	Alkenes (Primary)	330562.07	1.42	11
15	Alkenes (Internal)	762443.71	3.28	12
16	Alkenes (Prim/Inter Mix)	196868.08	0.85	13
17	Benzene	542480.63	2.33	14
18	Toluene	1264496.65	5.43	15
19	Aromatics (<2 react.)	291946.95	1.25	15
20	Aromatics (2-4 react.)	1254746.35	5.39	16
21	Aromatics (>4 react.)	510256.50	2.19	16
22	Phenols and Cresols	45178.66	0.19	17
23	Halogenated Benzenes	59462.17	0.26	14 –
24	Styrenes	83457.33	0.36	18 –
25	Benzaldehydes	18574.3	0.08	20 –
26	C10 Aromatics	161465.98	0.69	16
27	Napthalenes	66120.73	0.28	16
28	Alkyl Napthalenes	35582.52	0.15	16
29	Formaldehyde	319862.84	1.37	19
30	Higher Aldehydes	137856.06	0.59	20 –
31	Acetone	210276.13	0.90	21
32	Higher Ketones	197065.08	0.85	22
33	Carbonyls	9297.67	0.04	20 –
34	Organic Acids	39736.42	0.17	23
35	Acetylene	363820.63	1.56	24
36	Methanol	40190.95	0.17	27 -
37	Ethanol	689099.11	2.96	28 -
38	Isopropyl Alcohol	537721.87	2.31	29 -
39	Percholoroethylene	352918.27	1.52	25
40	Trichloroethylene	133145.59	0.57	26
41	Methly Chloroform	130865.08	0.56	26
42	Haloalkanes (unsat.)	132852.88	0.57	26
43	Haloalkanes (sat.)	53924.81	0.23	26
44	Sulfides (COS & CS2)	66501.62	0.28	26
45	Others (<0.25 react.))	56384.50	0.24	27 -
46	Others (0.25-0.50 react.)	112318.05	0.48	28 -
47	Others (0.50-1.00 react.)	337927.69	1.45	29 -
48	Others (>1.00 react.)	298972.97	1.28	30

Revised Groups noted

49	Unidentified	1357513.13	5.83	31
50	Unassigned	168577.33	0.72	32
TOTAL		23268791.8	99.97	

DISAGGRAGATION IF > 32 POSSIBLE: REINSTATING PRIORTIES (Refer to Numbers from the 50 list)

Treat 27, 28,26 separately from the lumped aromatic class
  Treat 25, 33 as separate entities
Disaggregate the alkane categories (4-9)
Disaggregate the remaining aromatics (18, 19, 23,17)
Treat alcohols (36-38) separately
Treat 41-44 separately

APPENDIX B

USER'S MANUAL AND FORTRAN COMPUTER CODE FOR THE POLLUTANT SPLITS PROGRAM (PSPLIT)

PSPLIT PROGRAMMER'S GUIDE

Prepared by

W. T. Smith
T. L. Kelly

September 1, 1983

For

Meteorology and Assessment Division
Environmental Sciences Research Laboratory
Office of Research and Development
U.S. Environmental Protection Agency

Revised September 28, 1984

Under GSA-IAG DW930026-01-1
(Task 171A00, CDSI Contract)

Addenda for PSPLIT Programmers Guide
Version PSPLIT_2A

The data processing requirements for the development of the 1985 NAPAP Emissions Inventory demanded additional input and output capacity for the execution of the PSPLIT computer program. To accomodate these increases in input and output data capacities some modifications to the PSPLIT code were necessary. This addenda list describes those changes and how they effect the preparations for and the use of the PSPLIT program. The programmers guide for the Version PSPLIT_1A was created for the execution of the program on a Sperry UNIVAC 1100/82 computer. The NCC UNIVAC system is scheduled for termination on September 30, 1988. The PSPLIT code was migrated to the NCC VAX system to facilitate the continued execution of PSPLIT for future purposes. Therefore any reference in the original PSPLIT Programmers Guide to the UNIVAC system or formats should be ignored.

The changes reflected in the new Version PSPLIT_2A are summarized below:

PAGE NUMBER	RELEVANT CHANGES IN DOCUMENTATION
B-10	Disregard all of section VII. These activites are now performed in program HCPREP for NAPAP and RADM applications as part of the FREDS preprocessing system.
B-11	1st Paragraph - The number of species classes used in Version PSPLIT_2A for the application to RADM is increased from 10 to 32.
	4th Paragraph - The program file is now included on the NCC VAX system in Directory SKP.PSPLIT_RADM. DIR.
	5th Paragraph - The Version PSPLIT_2A requires 550K words of core.
B-22	File Characteristics - Number of records: le 640 card images.
	File Description - The program requires the definition of 32 species classes.
	Data Dictionary - NSBOND (number of single bonds) field is not used by the RADM version of PSPLIT_2A. That variable is only used to develop class assignments for carbon bond chemistry.

PAGE NUMBER	RELEVANT CHANGES IN DOCUMENTATION
B-24	File Characteristics - Number of records: le 4500 card images. File Description - weight percent of aldehyde is not needed. Data Dictionary - HCHOWT, REF and Comment are not required.
B-26	File Characteristics - Number of records: 4000 card images.
B-28	SCC Profile File 2 is not used for the application to the 1985 NAPAP Inventory.
B-36	File Characteristics - Record size 115 characters, Number of records: le 4000 records. The test execution of PSPLIT_2A produced 6528 output records, 2 per SCC. Data Dictionary: Record 2 contains 16 hydrocarbon classes in I5 format and record 3 contains 16 hydrocarbon classes in I5 format.
B-39	Volume of dataset information are changed as indicated above.
Sections 4 & 5	The Version PSPLIT_1A documentation lists the runstreams which will execute the Version PSPLIT_1A on a Sperry UNIVAC 1100 computer. The Version PSPLIT_2A currently resides on the NCC VAX system and uses DCL commands to execute. Listings of the control command language are provided in this addenda list.

PSPLIT Programmer's Guide - Sept. 1, 1983

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1. Introduction

1.1 Purpose

This document describes program PSPLIT which produces species allocation factors in the file format required as input to program TSPLIT of the Regional Model Data Handling System (RMDHS)[1]. PSPLIT computes factors which are used to disaggregate total hydrocarbon emissions as received from the States into selected groups of volatile organic compounds as required by the "current" chemistry mechanism of the U.S. EPA Regional Oxidant Model (ROM). Program PSPLIT was primarily developed to automate a method for generating hydrocarbon speciation factors for any specified chemistry mechanism or specie classification scheme. It also provides an effective means of incorporating revised specie profiles for each source type. This document is primarily intended for programmers who operate and maintain the PSPLIT program.

1.2 Background and Environment

The PSPLIT program was developed by Computer Data Systems, Inc. for the Meteorology and Assessment Division, Environmental Sciences Research Laboratory, U.S. Environmental Protection Agency. It operates on the National Computer Center (NCC) UNIVAC 1100/82 system. Several key data sets required as input to PSPLIT - the hydrocarbon profiles and SCC/profiles index file - were developed by GCA Corporation under EPA contract 68-02-3510[2]. PSPLIT generates the speciation allocation file for RMDHS which in turn performs the temporal, spatial and VOC species allocations on annual point and area source emissions data to produce major point source and gridded area source hourly emissions for up to 10 pollutant species/classes. The Monitoring and Data Analysis Division of the Office of Air Quality, Planning and Standards has the expertise and current responsibility for operating the RMDHS on the UNIVAC 1100/82. Finally, several Regional Oxidant Model processors transform hourly emissions into final form required for operation of the model. A summary diagram of system interfaces is presented in Figure B-1.

1.3 Specification for Mole Factor Calculation

Definition of Terms

Profile - A specific set of species whose emissions are known to occur due to a given process or processes.

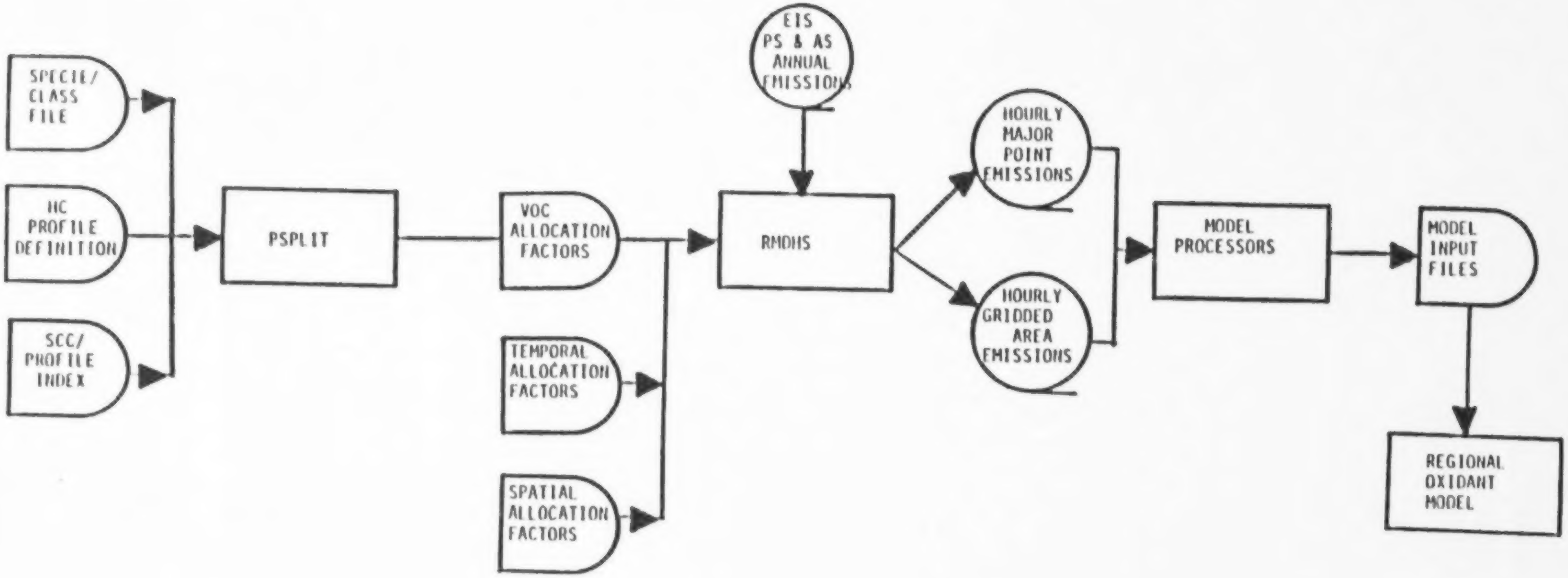
Class - A particular grouping of species according to their chemical properties. These aggregate classes are treated as different "species" in the chemistry module of the Regional Oxidant Model.

Specie - An individual organic compound

VOC - Volatile Organic Compound

Mole Factor (MF) - Class Mole fraction divided by profile average molecular weight (moles/kilogram).

FIGURE B-1. OVERVIEW OF SYSTEM INTERFACES


SPECIE/ CLASS FILE
HC PROFILE DEFINITION
SCC/ PROFILE INDEX
PSPLIT
VOC ALLOCATION FACTORS
TEMPORAL ALLOCATION FACTORS
SPATIAL ALLOCATION FACTORS
EIS PS & AS ANNUAL EMISSIONS
RMDHS
HOURLY MAJOR POINT EMISSIONS
HOURLY GRIDDED AREA EMISSIONS
MODEL PROCESSORS
MODEL INPUT FILES
REGIONAL OXIDANT MODEL

Specifications

I. For each specie in profile calculate mole percent using weight percent and molecular weight.

Step 1: Divide the weight (grams) by the molecular weight (g/mole) to obtain moles of each specie in profile. Note: Weight (g) is theoretically obtained by multiplying the weight fraction (weight % ÷ 100) by a unit weight, here chosen to be 100 grams. The algorithm need not make this redundant calculation, instead assume the weight (g) is equal to the reported weight percent.

$$\text{Moles }(n) = \text{wt\% }(n)/\text{mw}(n) \qquad n=1, \#\text{ of species in profile}$$

Step 2: Sum moles for each specie to form total moles in profile (TMP).

$$\text{TMP} = \sum_{1}^{n} \text{moles }(n)$$

Step 3: Calculate mole percent by dividing the moles of each species by the total moles in profile and multiplying by 100%.

$$\text{Mole \% }(n) = \frac{\text{Mole}(n)}{\text{TMP}} * 100\%$$

II. Calculate the average molecular weight for each class of a profile. Assumption: each specie in a profile must be associated with a NEROS chemistry class. In this example assume m classes per profile; n species per class where n could easily vary from class to class.

For each class m:

Step 1: For each specie in a class m multiply molecular weight (g/mole) by mole fraction (mole fraction is mole % divided by 100)

$$\text{MWC}_m\ (n) = \text{MW }(n) * \text{mole fraction }(n)$$

Step 2: Sum these calculated mole weights.

$$\text{MWCSUM}_m = \sum_{1}^{n} \text{MWC}_m\ (n)$$

Step 3: Sum the mole fractions in class m.

$$\text{MFSUM}_m = \sum_{1}^{n} \text{mole fraction }(n)$$

Step 4: Divide the mole weight sum by the mole fraction sum to compute average molecular weight for class m.

$$\text{AVMW}_m = \frac{\text{MWSUM}_m}{\text{MFSUM}_m}\ (\text{g/mole})$$

III. Calculate weight percent of each class in the profile. Total weight percent of profile should equal 100%. Weight percent of each class is the sum of the weight percents of the individual species of the class.

$WT_m\% = \sum_{1}^{n} WT\% (n)$ n = # of species in class m

IV. Calculate the mole percent of each class in the profile by using the class weight percent and class average molecular weight. Total mole percent of the profile should be equal to 100%.

Step 1: Divide the class weight (grams) by the average molecular weight of the class to obtain moles of class in profile.

See I.1 for explanation of substitution of weight percent for actual weight.

$\text{Moles}(m) = WT(m)/AVMW(m)$ m = 1, # of classes in profile

Step 2: Using the total moles in profile as calculated in I.2, calculate class mole percent by dividing the moles in each class by the total moles in profile and multiplying by 100%.

$\text{Mole } \% \ (m) = \frac{\text{Mole } (m)}{TMP} * 100\%$

As an alternative check the total moles in profile can be recalculated by summing the moles in each class as calculated in previous step and compared with the TMP figure calculated in I.2.

V. Calculate the average molecular weight of the profile.

Step 1: Multiply the average molecular weight of each class by the mole fraction of each class.

$MWC_p\ (m) = AVMW\ (m) * \text{mole fraction } (m)$

Step 2: Sum the calculated mole weights and theoretically divide by the sum of mole fractions (mole fraction sum should be 1.00).

Average Molecular Weight for Profile (AMWP) = $\sum_{1}^{m} MWC_p\ (m)/1.0$

VI. Calculate mole factors for each profile and class combination by dividing mole fraction for each class by the profile average molecular weight and converting to kilograms.

$MF_p\ (m) = \text{Mole fraction } (m)/AMWP\ (g/\text{mole}) * \frac{1000\ g}{kg}$

MF is in moles per kilogram, thus when multiplied by HC emissions in kilograms will produce the moles of hydrocarbon in each class.

m = 1, number of classes
p = 1, number of profiles or source categories

VII. Calculate value to be stored in aldehyde adjustment slot (col 62-65) of output record.

1) If hydrocarbon is reported as total hydrocarbon, then adjustment factor equals aldehyde wt % for profile.

2) If hydrocarbon is reported as non-methane hydrocarbon then adjustment factor equals aldehyde wt % + methane wt % for profile.

Adjustment is then performed in RMDHS as described in Appendix D-8[*] of the User's Guide, equation 3:

$$\text{HC - ADJ} = \frac{\text{HC* 100}}{\text{100 - PCT-ALDEHYDES}}$$

where PCT-ALDEHYDES is the combined adjustment factor described above and HC is hydrocarbon as reported by states.

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[*] Note: This refers to Appendix D-8 of the "Regional Modeling Data Handling System (RMDHS) User Guide." (Unpublished document, OAQPS, September 1981.) (See reference 1, page B-104.)

2. Program Functional Descriptions

2.1. Program PSPLIT

Program: PSPLIT

Program Function:

Program PSPLIT reads the following files: a list of SCC codes and their profile ids, the profile definitions, and the specie definitions. Each profile contains a list of species which compose the profile. For each specie in the list it retrieves its class number and molecular weight. The profile is then divided into 10 classes, and the calculated mole factors for the SCC code are punched to the pollutant split file.

Program PSPLIT was designed as a system of four independent programs (referred to as subprograms SPDEF, HCDEF, SCCDEF, and POLDEF) which is communicated through two intermediate files (the specie class definition file, and the hydrocarbon profile definition file). Each subprogram was designed, coded, and tested as a separate program. After testing was complete, subprogram POLDEF was chosen as the controller program, and a methodology known as "program inversion" was used to eliminate the two intermediate files and to convert the four subprograms into subroutines. The result is the one main program PSPLIT.

The first data flow diagram shows PSPLIT after the program inversion was done. The second data flow diagram shows PSPLIT before the program inversion was done.

All software is written in ASCII FORTRAN. Software is contained in file NEROS*WTSVOC3.

Program requires 140K words of core.

Data Flow Components:

1. Control Cards for PSPLIT
   Contains options for punching input files after they have been sorted.

2. PSPLIT
   Main program

3. Specie Class File (Input)
   Each SAROAD specie is assigned a class number.

4. Hydrocarbon Profile File (Input)
   Contains a list of species for each profile.

5. SCC Profile Filel
   Each SCC code is assigned a profile id.

6. Specie Class File (Output)
   Specie Class File sorted into ascending order using SAROAD code for each specie.

7. Hydrocarbon Profile File (Output)
   Hydrocarbon profile file sorted into ascending order using profile ids.

8. SCC Profile File2
   SCC profile file sorted into two parts.

9. Hydrocarbon Splits File
   Contains mole factors for 10 species for each SCC code.

10. Control Card for SPDEF
    User may optionally punch a copy of the sorted specie class file.

11. SPDEF
    Subprogram. Creates specie class definition file.

12. Specie Class Definition File
    Contains the specie class definitions and a hashing table for SAROAD codes. This file is eliminated by inverting subprogram SPDEF.

13. Control Card for HCDEF
    Card is read, but no punch performed.

14. HCDEF
    Subprogram. Creates hydrocarbon profile definition file.

15. SCCDEF
    Subprogram. Creates sorted scc profile file.

16. Hydrocarbon Profile Definition File
    Contains the hydrocarbon profile definitions and a hashing table for profile ids. This file is eliminated by inverting subprogram HCDEF.

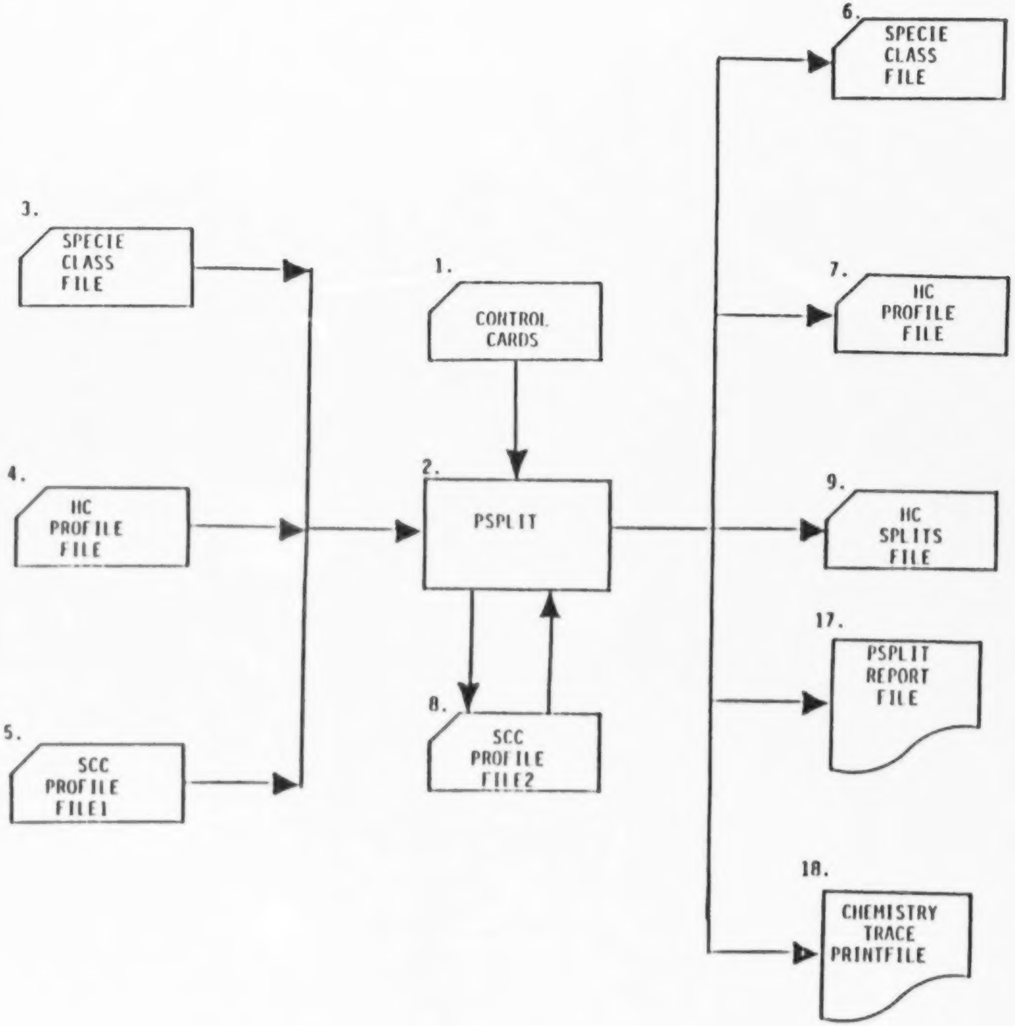
17. PSPLIT Report File
    Alternate print file which contains several reports which detail inputs and outputs.

18. Chemistry Trace Print File
    Alternate print file which traces steps taken in calculating the hydrocarbon splits.

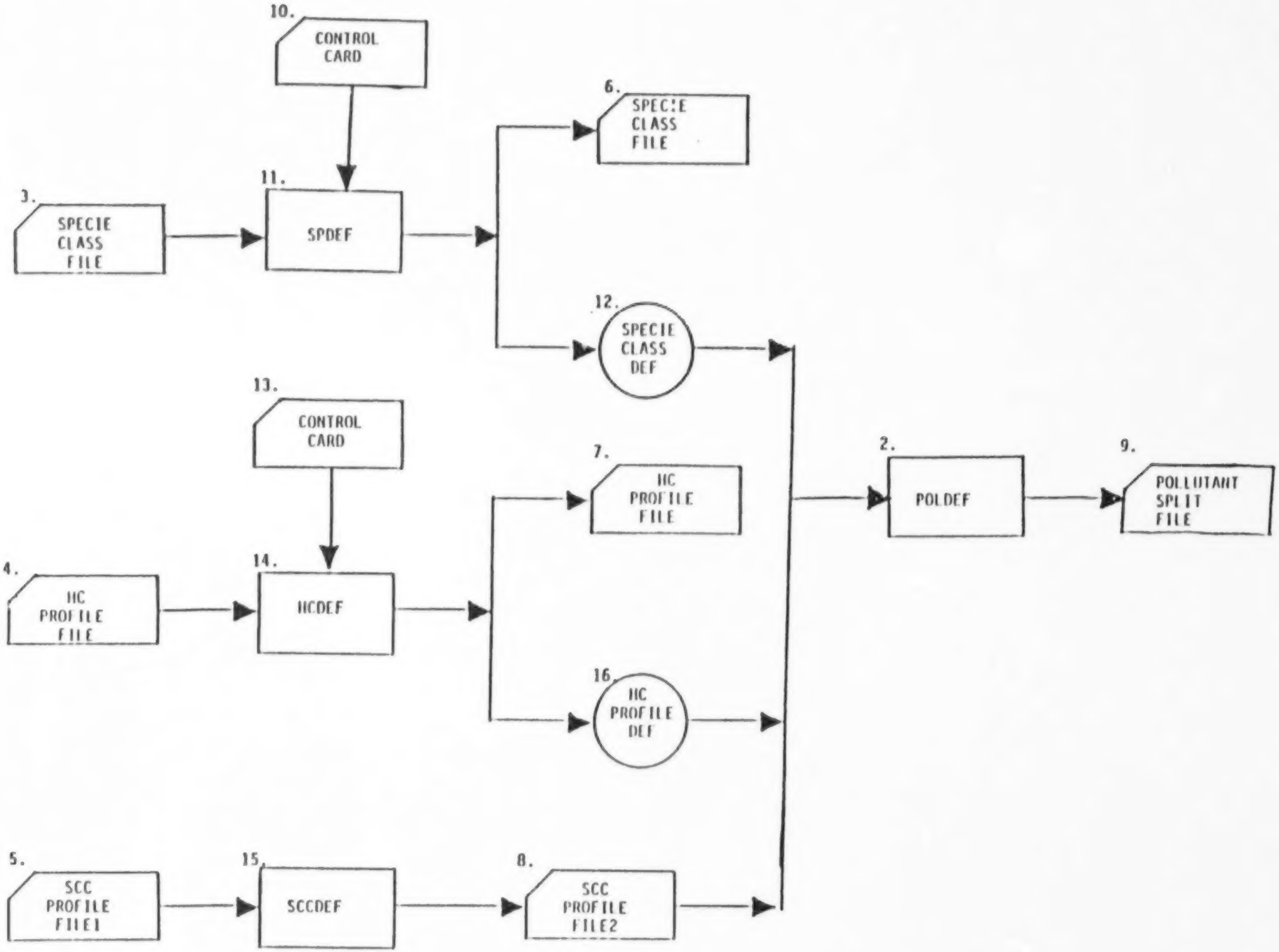
2.2. Data Flow Diagrams

Nov. 3, 1982

DATA FLOW FOR PSPLIT


1. CONTROL CARDS
2. PSPLIT
3. SPECIE CLASS FILE
4. HC PROFILE FILE
5. SCC PROFILE FILE1
6. SPECIE CLASS FILE
7. HC PROFILE FILE
8. SCC PROFILE FILE2
9. HC SPLITS FILE
17. PSPLIT REPORT FILE
18. CHEMISTRY TRACE PRINTFILE

EXPANDED DATA FLOW FOR PSPLIT


10.
CONTROL CARD
3.
SPECIE CLASS FILE
11.
SPDEF
6.
SPECIE CLASS FILE
12.
SPECIE CLASS DEF
13.
CONTROL CARD
4.
HC PROFILE FILE
14.
HCDEF
7.
HC PROFILE FILE
16.
HC PROFILE DEF
5.
SCC PROFILE FILE1
15.
SCCDEF
8.
SCC PROFILE FILE2
2.
POLDEF
9.
POLLUTANT SPLIT FILE

2.3. Program PSPLIT/VS2

Program: PSPLIT/VS2

Program Function:

Program PSPLIT/VS2 is an alternate program which requires less core than PSPLIT. This reduction in core allows the user to execute this program in batch mode during the day. This program uses program HCDEF/VS2 instead of HCDEF. HCDEF/VS2 has been designed such that the file sort has been eliminated. The only other change that the user will notice between PSPLIT and PSPLIT/VS2 is the runstream will no longer need unit 11. The control cards are the same, although no punching of the hydrocarbon definition file is performed.

Program PSPLIT/VS2 reads the following files: a list of SCC codes and their profile ids, the profile definitions, and the specie definitions. Each profile contains a list of species which compose the profile. For each specie in the list it retrieves its class number and molecular weight. The profile is then divided into 10 classes, and the calculated mole factors for the SCC code are punched to the pollutant split file.

Program PSPLIT/VS2 was designed as a system of four independent programs (referred to as subprograms SPDEF, HCDEF/VS2, SCCDEF, and POLDEF) which is communicated through two intermediate files (the specie class definition file, and the hydrocarbon profile definition file). Each subprogram was designed, coded, and tested as a separate program. After testing was complete, subprogram POLDEF was chosen as the controller program, and a methodology known as "program inversion" was used to eliminate the two intermediate files and to convert the four subprograms into subroutines. The result is the one main program PSPLIT/VS2.

The first data flow diagram shows PSPLIT/VS2 after the program inversion was done. The second data flow diagram shows PSPLIT/VS2 before the program inversion was done.

All software is written in ASCII FORTRAN. Software is contained in file NEROS*WTSVOC3.

Program requires 85K words of core.

Data Flow Components:

1. Control Cards for PSPLIT/VS2
   Contains options for punching input specie definition file after it has been sorted. No punching performed for hydrocarbon definition file.

2. PSPLIT/VS2
   Main program

3. Specie Class File (Input)
   Each SAROAD specie is assigned a class number.

4. Hydrocarbon Profile File (Input)
   Contains a list of species for each profile.

5. SCC Profile File1
   Each SCC code is assigned a profile id.

6. Specie Class File (Output)
   Specie Class File sorted into ascending order using SAROAD code for each specie.

8. SCC Profile File2
   SCC profile file sorted into two parts.

9. Hydrocarbon Splits File
   Contains mole factors for 10 species for each SCC code.

10. Control Card for SPDEF
    User may optionally punch a copy of the sorted specie class file.

11. SPDEF
    Subprogram. Creates specie class definition file.

12. Specie Class Definition File
    Contains the specie class definitions and a hashing table for SAROAD codes. This file is eliminated by inverting subprogram SPDEF.

13. Control Card for HCDEF/VS2
    Card is read, but no punch performed.

14. HCDEF/VS2
    Subprogram. Creates hydrocarbon profile definition file.

15. SCCDEF
    Subprogram. Creates sorted scc profile file.

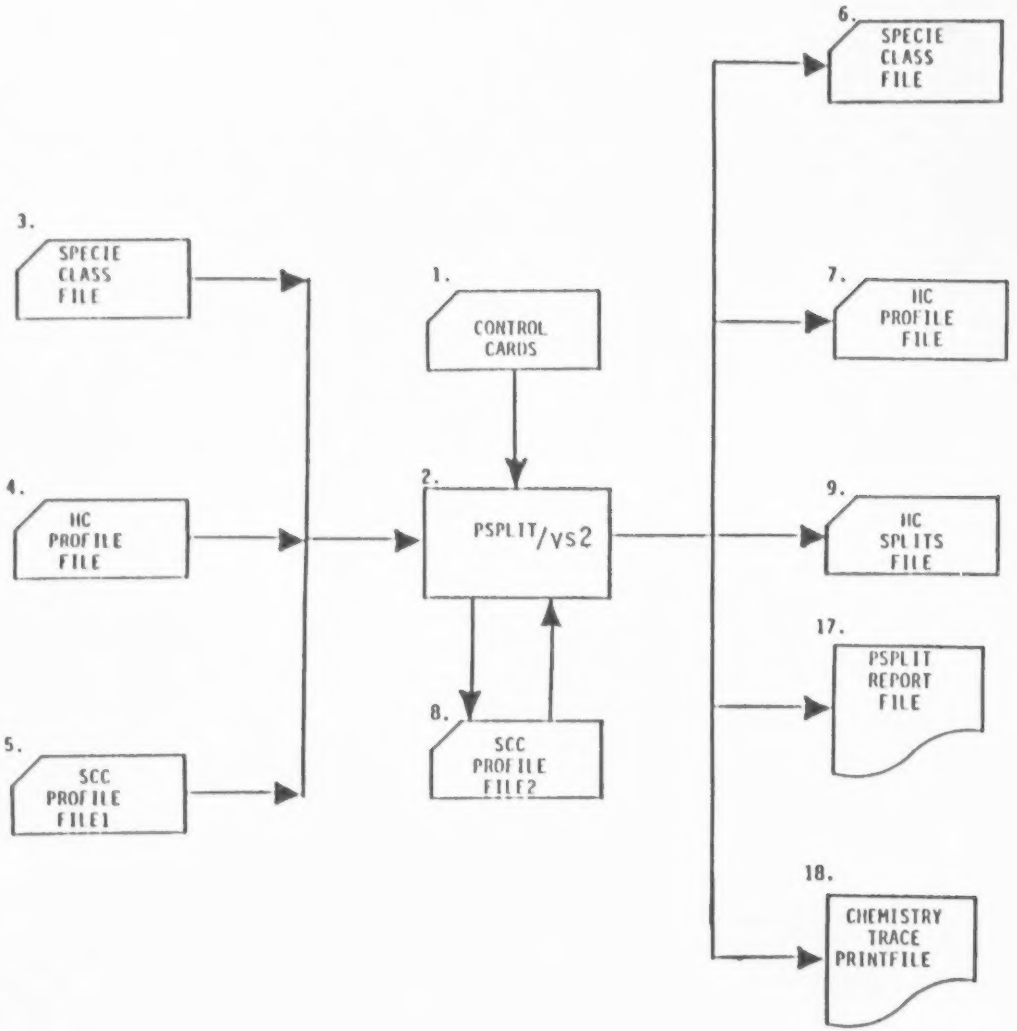
16. Hydrocarbon Profile Definition File
    Contains the hydrocarbon profile definitions and a hashing table for profile ids. This file is eliminated by inverting subprogram HCDEF.

17. PSPLIT Report File
    Alternate print file which contains several reports which detail inputs and outputs.

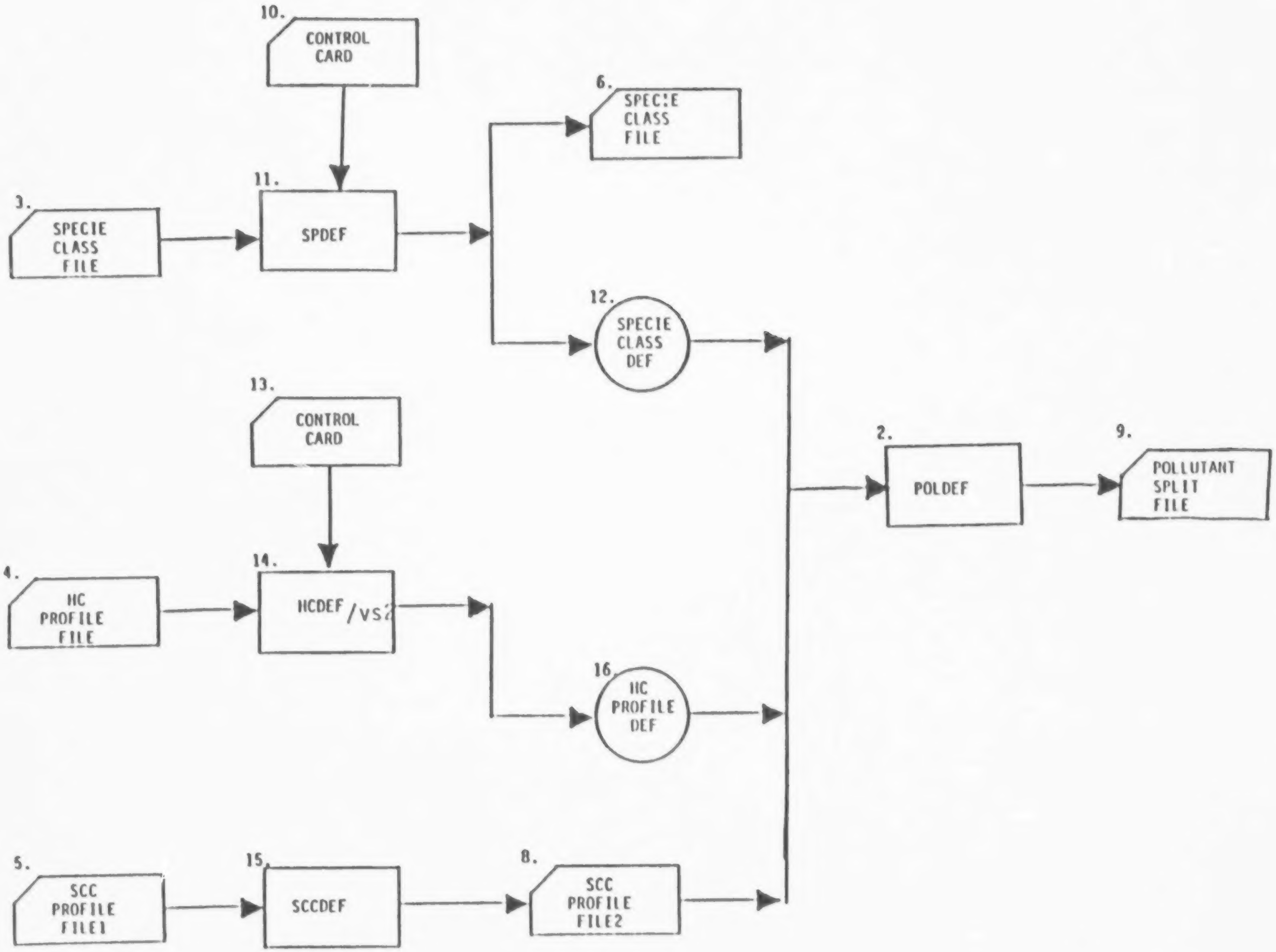
18. Chemistry Trace Print File
    Alternate print file which traces steps taken in calculating the hydrocarbon splits.

2.4. Data Flow Diagrams

DATA FLOW FOR PSPLIT


1.
CONTROL CARDS
2.
PSPLIT/VS2
3.
SPECIE CLASS FILE
4.
HC PROFILE FILE
5.
SCC PROFILE FILE1
6.
SPECIE CLASS FILE
7.
HC PROFILE FILE
8.
SCC PROFILE FILE2
9.
HC SPLITS FILE
17.
PSPLIT REPORT FILE
18.
CHEMISTRY TRACE PRINTFILE

EXPANDED DATA FLOW FOR PSPLIT


10.
CONTROL CARD
3.
SPECIE CLASS FILE
11.
SPDEF
6.
SPECIE CLASS FILE
12.
SPECIE CLASS DEF
13.
CONTROL CARD
4.
HC PROFILE FILE
14.
HCDEF /VS2
16.
HC PROFILE DEF
2.
POLDEF
9.
POLLUTANT SPLIT FILE
5.
SCC PROFILE FILE1
15.
SCCDEF
8.
SCC PROFILE FILE2

2.5 Subprogram HCDEF

Program: HCDEF

Program Function:
Program reads hydrocarbon profile file, sorts the file into ascending order using profile id, and creates hydrocarbon profile definition file from the sorted file. A maximum of 2000 profile cards may be read. Each profile may contain a maximum of 75 species. Program can read a maximum of 175 different profiles. User may optionally punch a copy of the sorted hydrocarbon file.

2.6 Subprogram HCDEF/VS2

Program Function:
Program reads hydrocarbon profile file, counts the file, rewinds it and creates hydrocarbon profile definition file. A maximum of 2000 profile cards may be read. Each profile may contain a maximum of 75 species. Program can read a maximum of 175 different profiles. This program was intended as an option for the user who does not require a sort of his hydrocarbon profile file and merely wants to execute the PSPLIT program during the day in batch mode. The user may execute this version of HCDEF by executing PSPLIT/VS2.

2.7 Subprogram POLDEF

Program: POLDEF

Program Function:
Program POLDEF reads the specie class definition file, the hydrocarbon profile definition file, and the sorted scc profile file. For each SCC code, the program retrieves the profile definition. For each specie in the profile, it retrieves the specie's class definition. Mole factors are then computed for each class in the profile. The SCC code and the ten mole factors are punched to the pollutant split file.

2.8 Subprogram SCCDEF

Program: SCCDEF

Program Function:
Program SCCDEF reads the SCC profile file and sorts the file into two parts. The first part contains all SCC profile cards on which the state county plant point field is not blank. The second part contains all the cards on which the same field is blank. The sorted SCC profile file is punched. Program can read a maximum of 1800 SCC profile cards.

2.9 Subprogram SPDEF

Program: SPDEF

Program Function:
Program SPDEF reads the specie class file, sorts the file into ascending order using the SAROAD code for each specie, and creates the specie class definition file from the sorted specie class file. Program can read a maximum of 500 specie class cards. User may optionally punch a copy of the sorted specie class file. Class numbers must be between 1 and 10 inclusive.

3. File Descriptions

3.1. Control Cards for PSPLIT and PSPLIT/VS2

File: Control Cards for PSPLIT and PSPLIT/VS2

File Characteristics:
Recording Mode: Card image
Record Size: 80 characters
Number of Records: 2

File Description:

This file contains the control cards which are read by subprograms SPDEF and HCDEF. The user inputs options which allow the punching of copies of the sorted specie class file and the hydrocarbon profile file.

The PUNCH1 variable (card type 1) is read in but not used in the execution of PSPLIT/VS2.

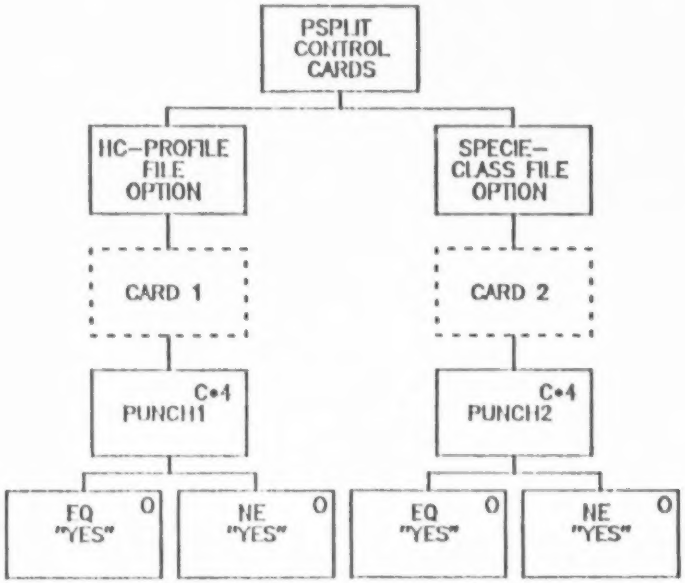
Data Dictionary:
(A "*" in the columns field indicates list directed formatting)

Card Type	Var. Name	Col.	Format	Description
1	PUNCH1	*	Char*4	EQ "YES", Sorted hydrocarbon profile file is punched NE "YES", Sorted hydrocarbon profile file is not punched
2	PUNCH2	*	Char*4	EQ "YES", Sorted specie class file is punched NE "YES", Sorted specie class file is not punched

3.2. Structure Chart of Control Cards for PSPLIT and PSPLIT/VS2.

PSPLIT CONTROL CARDS

020283


PSPLIT CONTROL CARDS
HC-PROFILE FILE OPTION
SPECIE-CLASS FILE OPTION
CARD 1
CARD 2
C•4
PUNCH1
C•4
PUNCH2
EQ "YES"
O
NE "YES"
O
EQ "YES"
O
NE "YES"
O

PSPLIT/IN1
020283/092543

3.3. Specie Class File

File: Specie Class File

File Characteristics:
Recording Mode: Card image
Record Size: 80 characters
Number of Records: le 500 cards

File Description:

File contains class ids and class names for the ten specie class designations. The following is input for each specie: SAROAD code, a class number between one and ten, a molecular weight, the number of single bonds, and the specie name.

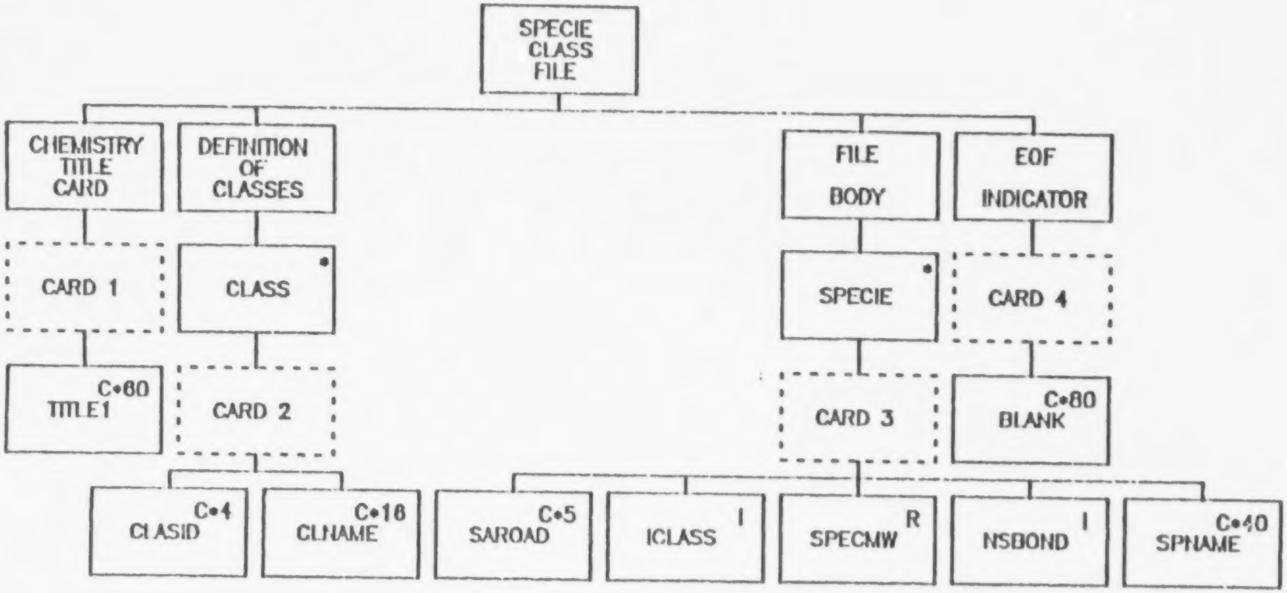
Data Dictionary:
(A "*" in the columns field indicates list directed formatting)

Card Type	Var. Name	Col.	Format	Description
1	TITLE1	1-60	A60	Chemistry description card
2	CLASID	1- 4	A4	Class id
	CLNAME	11-26	A16	Class name
3	SAROAD	1- 5	A5	SAROAD code for specie
	ICLASS	9-10	I2	Class number for specie
	SPECMW	11-20	F10.2	Molecular weight (grams/mole) for specie
	NSBOND	21-25	I5	Number of single bonds for specie
	SPNAME	31-70	A40	Name of specie
4	BLANK	1-80	Char*80	EQ " "

3.4. Structure Chart of Specie Class File

SPECIE CLASS FILE

090883


SPECIE CLASS FILE
CHEMISTRY TITLE CARD
DEFINITION OF CLASSES
FILE BODY
EOF INDICATOR
CARD 1
CLASS *
SPECIE *
CARD 4
C•80 TITLE1
CARD 2
CARD 3
C•80 BLANK
C•4 CLASID
C•16 CLNAME
C•5 SAROAD
I ICLASS
R SPECMW
I NSBOND
C•40 SPNAME

SPECIE–CLAS1
090883/091024

3.5. Hydrocarbon Profile File

File: Hydrocarbon Profile File

File Characteristics:
Recording Mode: Card image
Record Size: 80 characters
Number of Records: le 2000 cards

File Description:

File contains a list of profiles and the species which compose each profile. The following are input for each profile: profile id, weight percent of NO, weight percent of NO2, weight percent of aldehyde, a reference number, and a comment. The following is input for each specie in the profile: SAROAD code, and weight percent for specie.

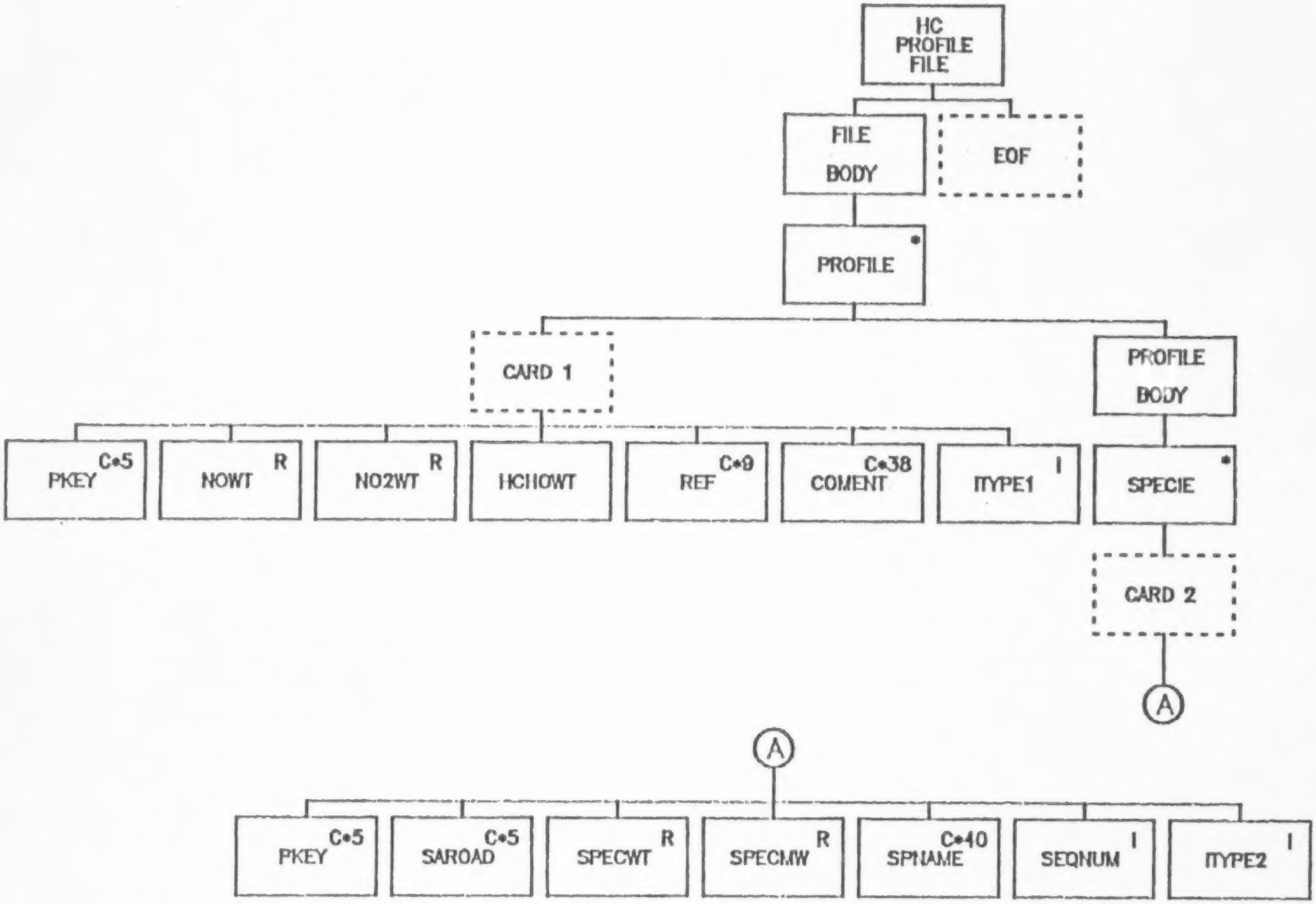
Data Dictionary:
(A "*" in the columns field indicates list directed formatting)

Card Type	Var. Name	Col.	Format	Description
1	PKEY	1-5	A5	Profile id (ANNNN) where: A = source document code where K = reference 3 R = reference 4 C = references 5 and 6 X - reference 7 NNNN = profile number (corresponds to table/ page number in source document)
	NOWT	11-15	F5.2	Weight percent of NO
	NO2WT	18-22	F5.2	Weight percent of NO2
	HCHOWT	25-29	F5.2	Weight percent of aldehyde
	REF	32-40	A9	Table number for profile
	COMENT	41-78	A38	Comment
	ITYPE1	80-80	I1	Card type (EQ 2)
2	PKEY	1- 5	A5	See PKEY on Card Type 1
	SAROAD	8-12	A5	SAROAD code for specie
	SPECWT	15-24	F10.2	Weight percent for specie
	SPECMW	27-36	F10.2	Molecular weight (grams/mole) for specie This field is not used.
	SPNAME	37-76	A40	Name of specie This field is not used.
	SEQNUM	78-79	I2	Sequence number of card This field is not used.
	ITYPE2	80-80	I1	Card type (EQ 3)

3.6. Structure Chart of Hydrocarbon Profile File

HYDROCARBON PROFILE FILE

073082


HC PROFILE FILE
FILE BODY
EOF
PROFILE *
CARD 1
PROFILE BODY
PKEY C*5
NOWT R
NO2WT R
HCHOWT
REF C*9
COMENT C*38
ITYPE1 I
SPECIE *
CARD 2
A
A
PKEY C*5
SAROAD C*5
SPECWT R
SPECMW R
SPNAME C*40
SEQNUM I
ITYPE2 I

HC-PROF1
052882/085113

3.7. SCC Profile File1

File: SCC Profile File1

File Characteristics:
Recording Mode: Card image
Record Size: 80 characters
Number of Records: le 1800 cards

File Description:

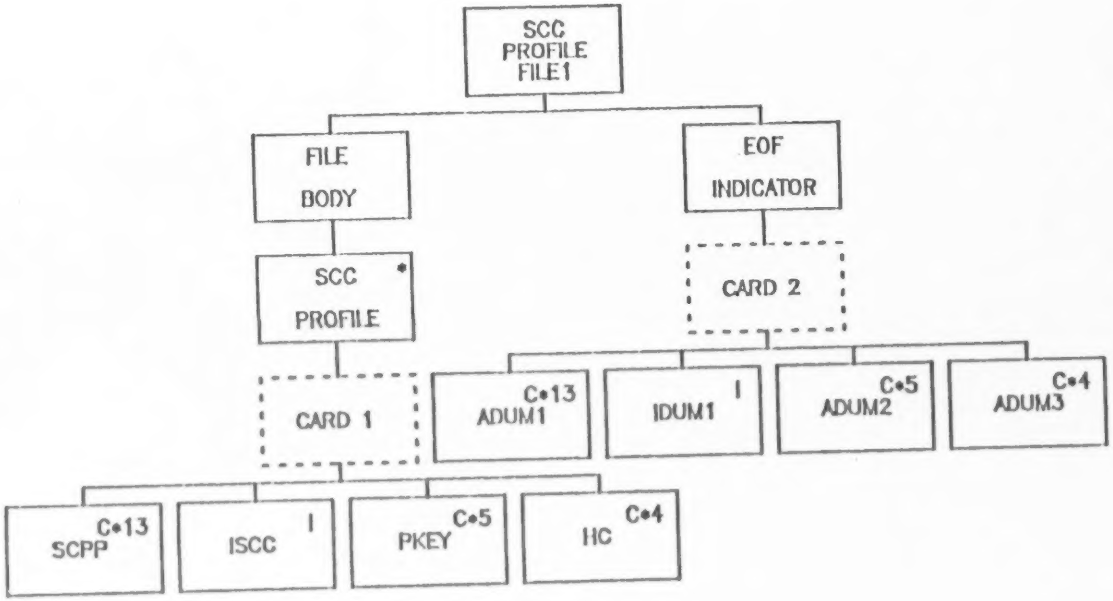
File contains a list of SCC codes. The following is input for each SCC code: a NEDS state county plant point id, the SCC code, the profile id, and a hydrocarbon adjustment indicator for methane. The state count plant point id and the hydrocarbon adjustment indicator for methane may be left blank.

Data Dictionary:
(A "*" in the columns field indicates list directed formatting)

Card Type	Var. Name	Col.	Format	Description
1	SCPP	1-13	A13	NEDS state county plant point id (SSCCCCPPPPKKK) where: SS = 2 digit state code CCCC = 4 digit county code PPPP = 4 digit plant code KKK = 3 digit point code
	ISCC	14-21	I8	8 digit NEDS SCC code
	PKEY	23-27	A5	Profile id (ANNN) where: A = source code NNNN = profile number
	HC	28-31	A4	Hydrocarbon adjustment indicator for methane input as follows: EQ " ", HC reported does include methane EQ "NMHC", HC reported does not include methane
2	ADUM1	1-13	A13	EQ " "
	IDUM1	14-21	I8	EQ 0
	ADUM2	23-27	A5	EQ " "
	ADUM3	28-31	A4	EQ " "

3.8. Structure Chart of SCC Profile File1

SCC PROFILE FILE1


SCC PROFILE FILE1
FILE BODY
EOF INDICATOR
SCC PROFILE *
CARD 2
CARD 1
ADUM1 C•13
IDUM1 I
ADUM2 C•5
ADUM3 C•4
SCPP C•13
ISCC I
PKEY C•5
HC C•4

3.9. SCC Profile File2

File: SCC Profile File2

File Characteristics:
Recording Mode: Card image
Record Size: 80 characters
Number of Records: le 1800 cards

File Description:

This file is identical in structure to the SCC Profile File1. The file has been sorted into two parts. The first part contains all the SCC cards on which the state county plant point field is not blank. The second part contains all the cards on which the same field is blank. Each part is sorted into ascending order using the state county plant point id as the major key and the SCC code as a minor key.

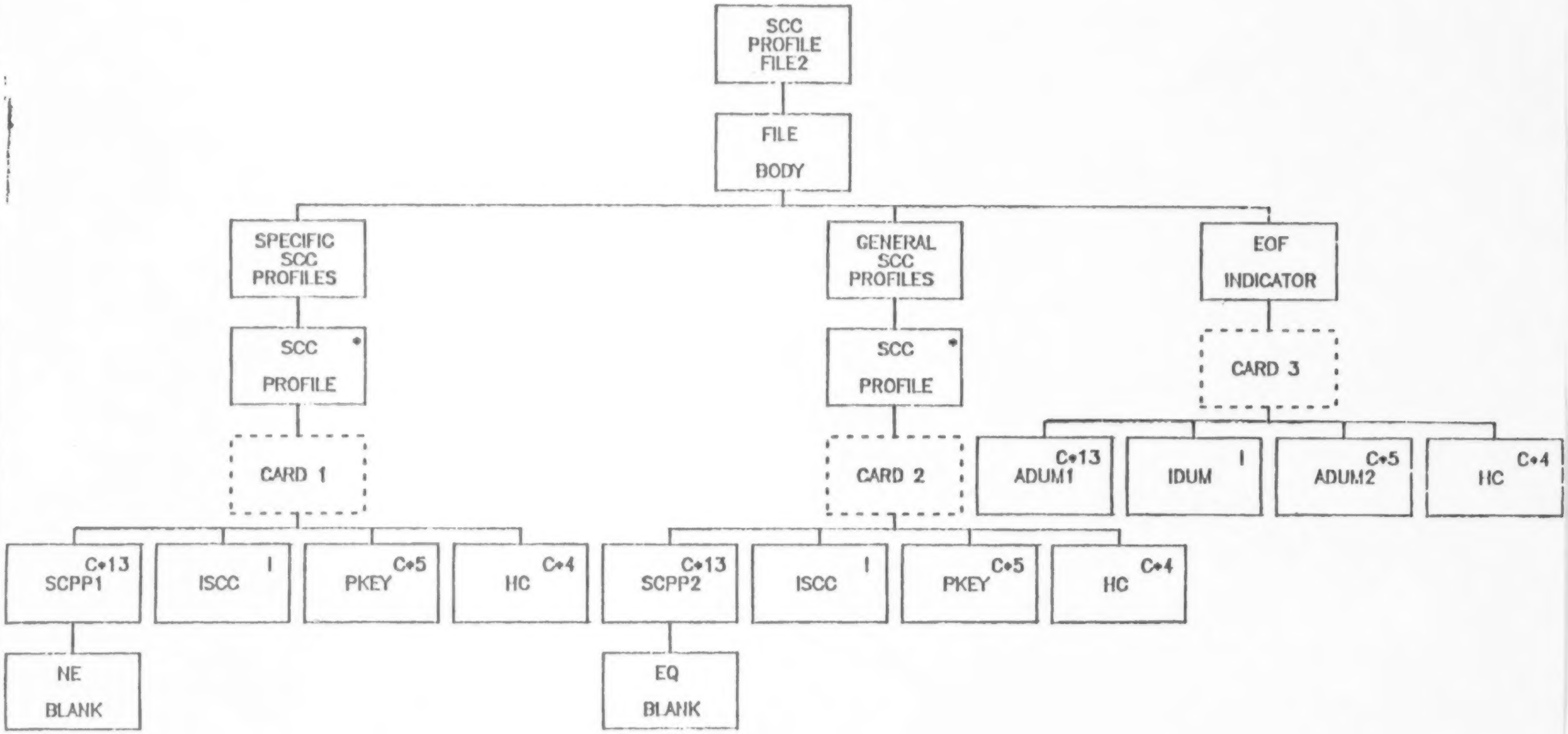
Data Dictionary:
(A "*" in the columns field indicates list directed formatting)

Card Type	Var. Name	Col.	Format	Description
1	SCPP1	1-13	A13	NEDS state county plant point id (SSCCCCPPPPKKK) where: SS = 2 digit state code CCCC = 4 digit county code PPPP = 4 digit plant code KKK = 3 digit point code
	ISCC	14-21	I8	8 digit NEDS SCC code
	PKEY	23-27	A5	Profile id (ANNN) where: A = source code NNNN = profile number
	HC	28-31	A4	Hydrocarbon adjustment indicator for methane input as follows: EQ " ", HC reported does include methane EQ "NMHC", HC reported does not include methane
2	SCPP2	1-13	A13	EQ " "
	ISCC	14-21	I8	See card type 1.
	PKEY	23-27	A5	See card type 1.
	HC	28-31	A4	See card type 1.
3	ADUM1	1-13	A13	EQ " "
	IDUM1	14-21	I8	EQ 0
	ADUM2	23-27	A5	EQ " "
	ADUM3	28-31	A4	EQ " "

3.10. Structure Chart of SCC Profile File2

SCC PROFILE FILE2

031683


SCC PROFILE FILE2
FILE BODY
SPECIFIC SCC PROFILES
SCC PROFILE *
CARD 1
SCPP1 C+13
ISCC I
PKEY C+5
HC C+4
NE BLANK
GENERAL SCC PROFILES
SCC PROFILE *
CARD 2
SCPP2 C+13
ISCC I
PKEY C+5
HC C+4
EQ BLANK
EOF INDICATOR
CARD 3
ADUM1 C+13
IDUM I
ADUM2 C+5
HC C+4

SCC–PROF3
102182/134435

3.11. Hydrocarbon Profile Definition File

File: Hydrocarbon Profile Definition File

File Characteristics:
Recording Mode: ASCII unformatted sequential
Record Size: 41320 words
Number of Records: 1

File Description:

File contains a list of profiles and the species which compose each profile. Each profile contains the following: profile id, weight percent of NO, weight percent of NO2, weight percent of aldehyde, and a list of species which compose the profile. Each specie contains the following: the SAROAD code for the specie, and the weight precent for the specie. Profiles occur in ascending order by profile id. Within each profile, species occur in ascending order by SAROAD code. The file also contains a hashing table for profile ids.

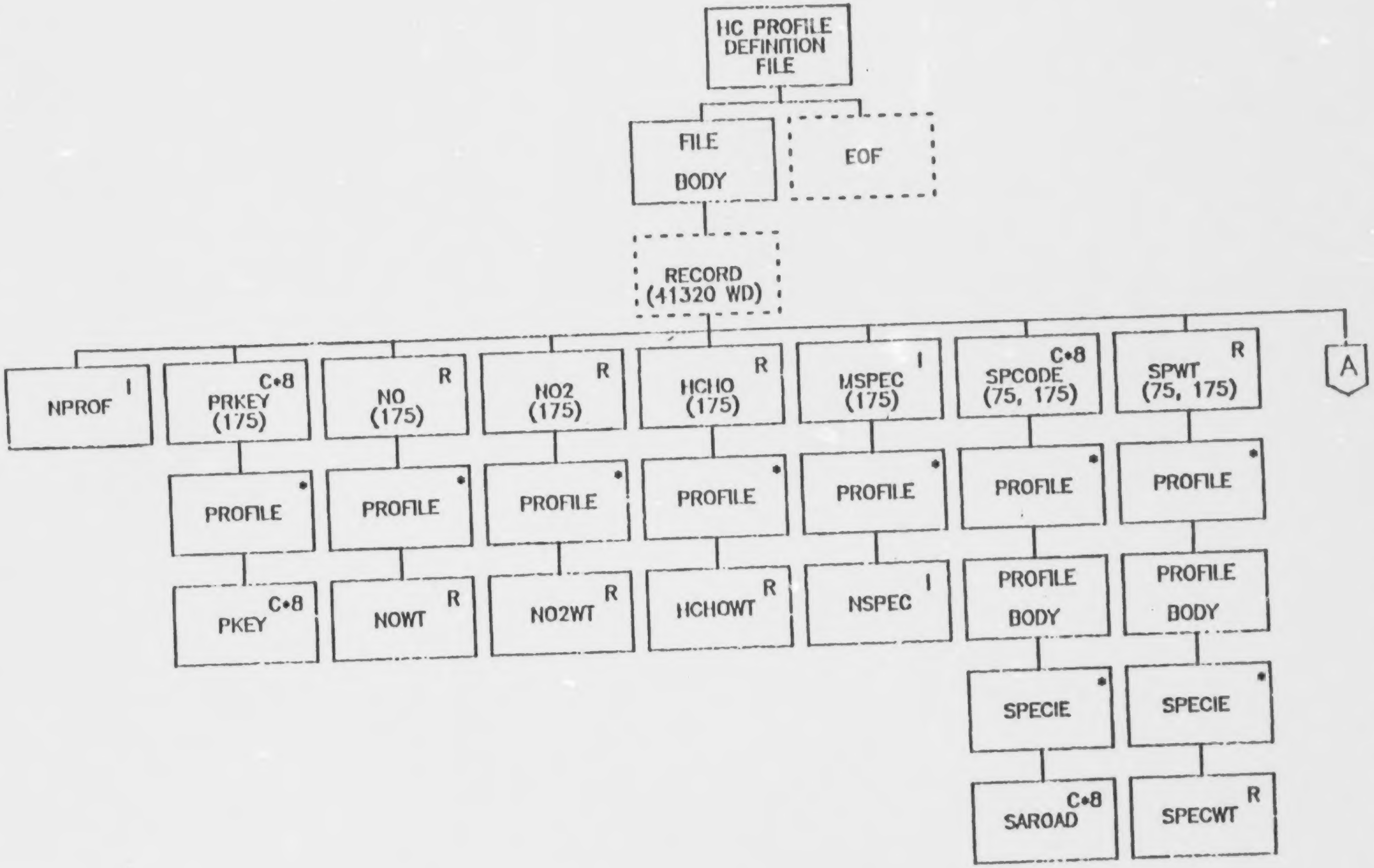
Data Dictionary:

Variable Name	Type	Description
NPROF	Integer	Number of profiles in the file
PRKEY(i)	Char*8	Profile id (ANNN) where: A = source code NNNN = profile number
NO(i)	Real	Weight fraction of NO in profile i
NO2(i)	Real	Weight fraction of NO2 in profile i
HCHO(i)	Real	Weight fraction of aldehyde in profile i
MSPEC(i)	Integer	Number of species in profile i
SPCODE(i,j)	Char*8	SAROAD code for specie i in profile j
SPWT(i,j)	REAl	Weight fraction for specie i in profile j
NPRIME	Integer	Number of entries in hashing table (EQ 223)
LENTRY	Integer	Number of words in each entry in hashing table (EQ 4)
PRHASH(1,i)	Char*8	Profile id in chain passing through entry i
(3,i)	Integer	Link to next profile id in chain passing through entry i
(4,i)	Integer	Position of profile id in sorted array PRKEY in chain passing through entry i

3.12. Structure Chart of Hydrocarbon Prof. Def. File

090683

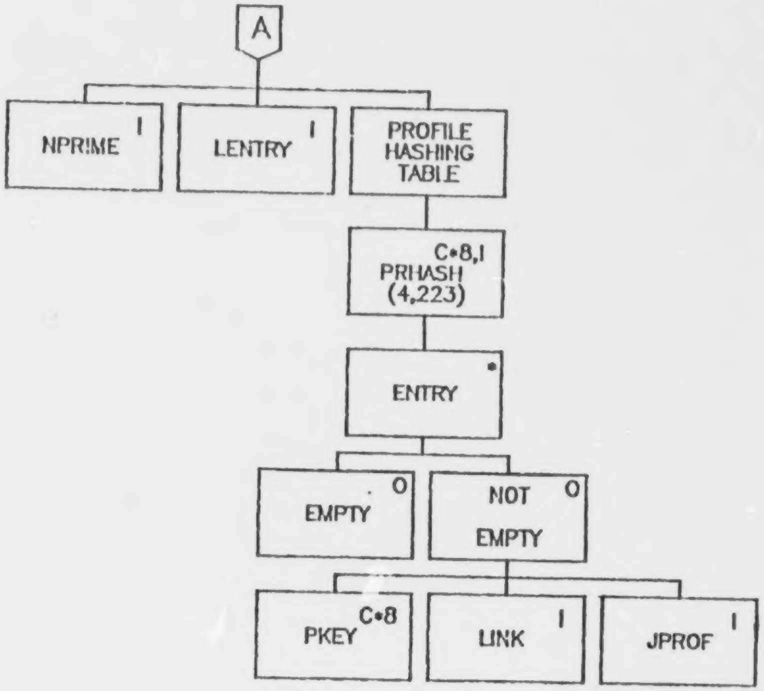
HYDROCARBON PROFILE DEFINITION FILE (PAGE 1 OF 2)


HC PROFILE DEFINITION FILE
FILE BODY
EOF
RECORD (41320 WD)
NPROF I
PRKEY (175) C•8
NO (175) R
NO2 (175) R
HCHO (175) R
MSPEC (175) I
SPCODE (75, 175) C•8
SPWT (75, 175) R
A
PROFILE *
PROFILE *
PROFILE *
PROFILE *
PROFILE *
PROFILE *
PROFILE *
PKEY C•8
NOWT R
NO2WT R
HCHOWT R
NSPEC I
PROFILE BODY
PROFILE BODY
SPECIE *
SPECIE *
SAROAD C•8
SPECWT R

HC–PROF2–PG1
052782/154352

HYDROCARBON PROFILE DEFINITION FILE (PAGE 2 OF 2)

090683


A
NPRIME I
LENTRY I
PROFILE HASHING TABLE
C•8,I PRHASH (4,223)
ENTRY *
EMPTY O
NOT EMPTY O
PKEY C•8
LINK I
JPROF I

HC-PROF2-PG2
052782/141743

3.13. Specie Class Definition File

File: Specie Class Definition File

File Characteristics:
Recording Mode: ASCII unformatted sequential
Record Size: 5090 words
Number of Records: 1

File Description:

File contains the following for each of ten specie classes: the specie class id, and the average of the molecular weights of all the species in the class. The file contains the following for each specie: the SAROAD code, the class number, the molecular weight, and the number of single bonds. The species occur in ascending order by SAROAD code. The file also contains a hashing table for SAROAD codes.

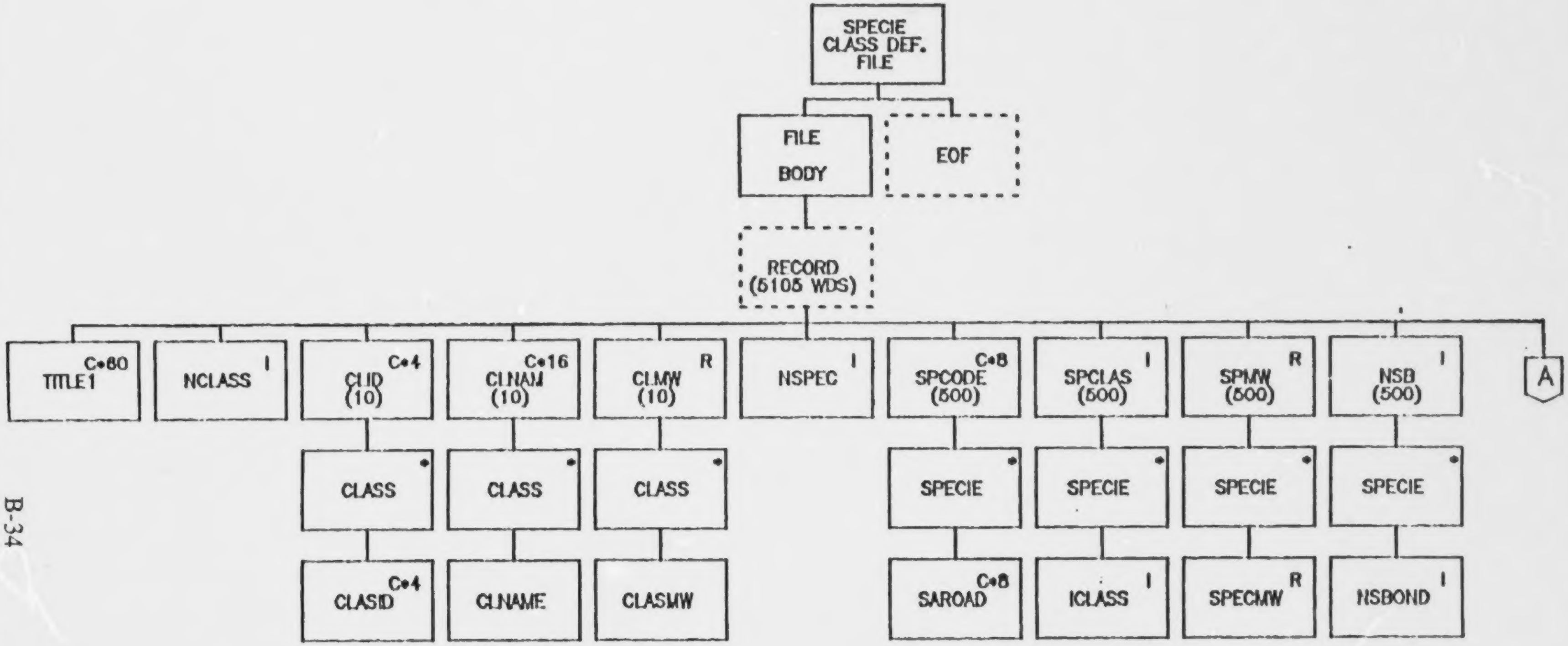
Data Dictionary:

Variable Name	Type	Description
TITLE1	Char*60	Chemistry description card
NCLASS	Integer	Number of specie classes (EQ 10)
CLID(i)	Char*4	Id for specie class i
CLNAM(i)	Char*16	Name of specie class i
CLMW(i)	Real	Average molecular weight for specie class i
NSPEC	Integer	Number of SAROAD codes in the file
SPCODE(i)	Char*8	SAROAD code for specie i
SPCLAS(i)	Integer	Class number assigned to specie i
SPMW(i)	Real	Molecular weight (grams/mole) for specie i
NSB(i)	Integer	Number of single bonds for specie i
NPRIME	Integer	Number of entries in hashing table (EQ 631)
LENTRY	Integer	Number of words in each entry in hashing table (EQ 4)
SPHASH(1,i)	Char*8	SAROAD code in chain passing through entry i
(3,i)	Integer	Link to next SAROAD code in chain passing through entry i
(4,i)	Integer	Position of SAROAD code in sorted array SPCODE in chain passing through entry i
CH4	Char*8	SAROAD code for methane

3.14. Structure Chart of Specie Class Definition File

SPECIE CLASS DEFINITION FILE (PAGE 1 OF 2)

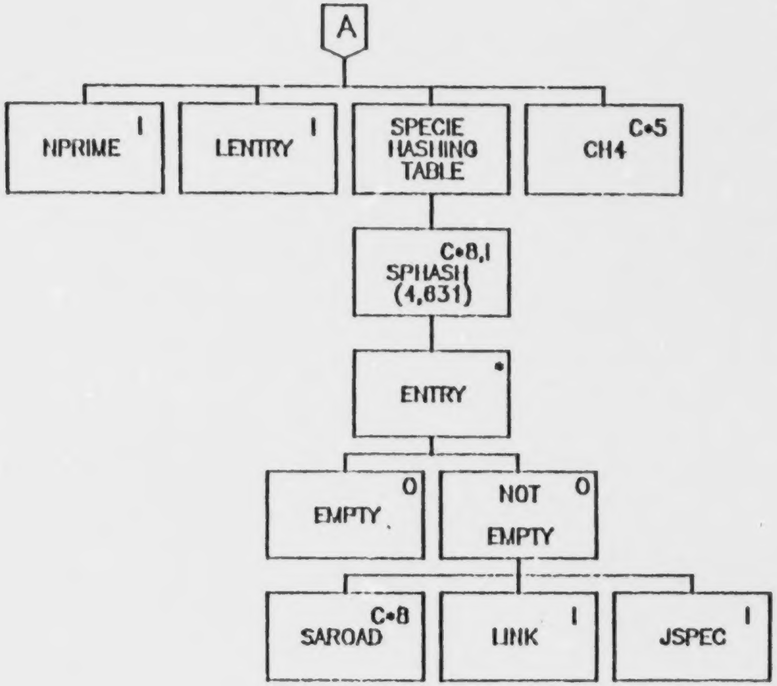
091683


SPECIE CLASS DEF. FILE
FILE BODY
EOF
RECORD (5105 WDS)
TITLE1 C*60
NCLASS I
CLID (10) C*4
CLNAM (10) C*16
CLMW (10) R
NSPEC I
SPCODE (500) C*8
SPCLAS (500) I
SPMW (500) R
NSB (500) I
A
CLASS *
CLASS *
CLASS *
SPECIE *
SPECIE *
SPECIE *
SPECIE *
CLASID C*4
CLNAME
CLASMW
SAROAD C*8
ICLASS I
SPECMW R
NSBOND I

SPECIE–CLAS2
090883/085238

SPECIE CLASS DEFINITION FILE (PAGE 2 OF 2)

090883


A
NPRIME
I
LENTRY
I
SPECIE HASHING TABLE
CH4
C•5
SPHASH
C•8,I
(4,831)
ENTRY
*
EMPTY
O
NOT EMPTY
O
SAROAD
C•8
LINK
I
JSPEC
I

SPECIE–CLASA
090883/085238

3.15. Hydrocarbon Splits File

File: Hydrocarbon Splits File

File Characteristics:
Recording Mode: Card image
Record Size: 80 characters
Number of Records: le 1800 cards

File Description:

This file contains the mole factors for the ten specie classes of hydrocarbon for each SCC code. The file has been sorted into two parts. The first part contains all the SCC cards on which the state county plant point field is not blank. The second part contains all the cards on which the same field is blank. Each part is sorted into ascending order using the state county plant point id as the major key and the SCC code as a minor key.

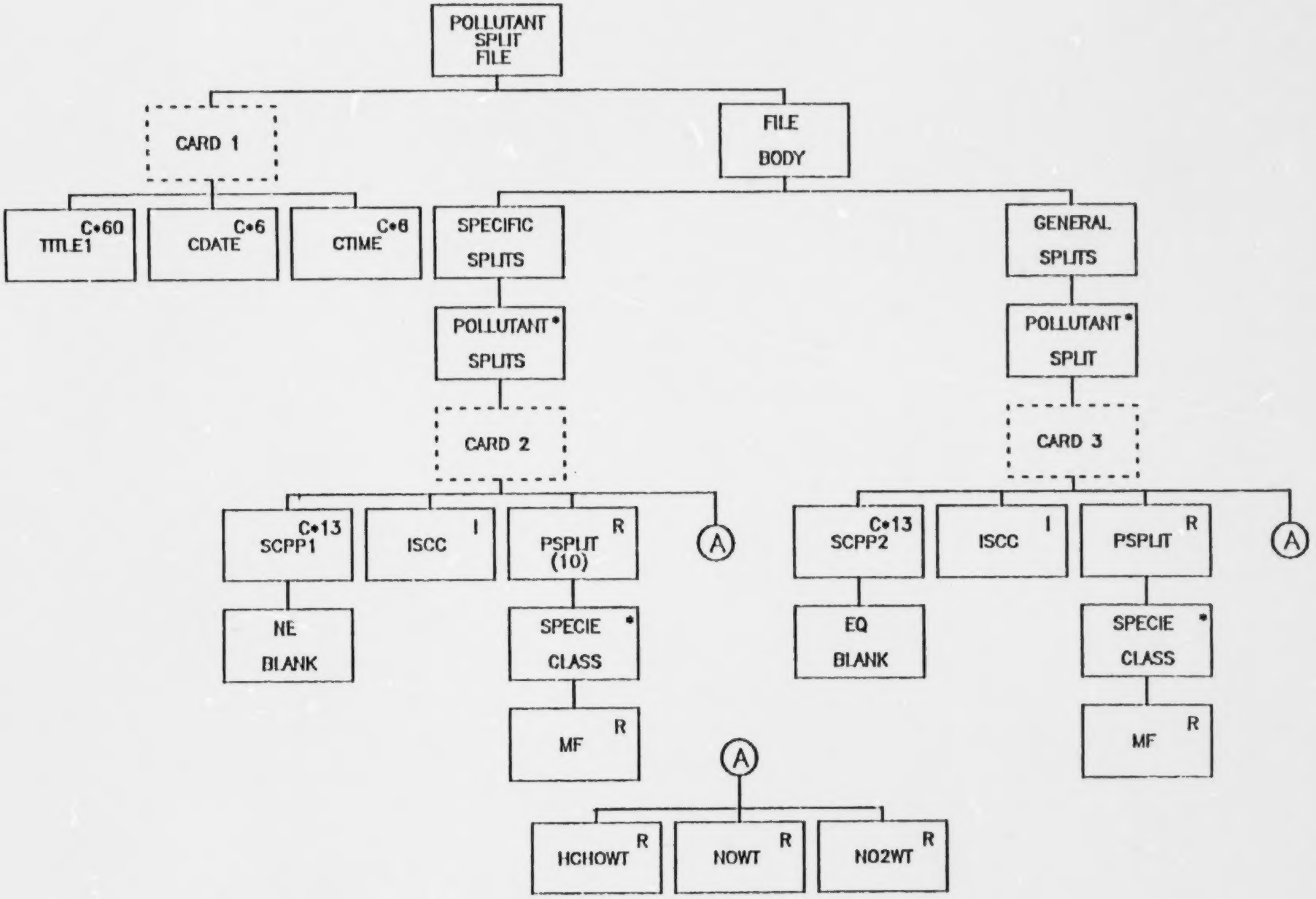
Data Dictionary:
(A "*" in the columns field indicates list directed formatting)

Card Type	Var. Name	Col.	Format	Description
1	TITLE1	1-60	A60	Chemistry description of chemistry type performed
	CDATE	68-73	A6	Creation date (MMDDYY) of file
		74-74	A1	EQ "/"
	CTIME	75-80	A6	Creation time (HHMMSS) of file
2	SCPP1	1-13	A13	NEDS State county plant point id (SSCCCCPPPPKKK) where: SS = 2 digit state code CCCC = 4 digit county code PPPP = 4 digit plant code KKK = 3 digit point code
	ISCC	14-21	I8	8 digit SCC code
	PSPLIT (i)	22-61	10I4	For i=1,10 Mole factors X 100 (mole/kg) for the ten specie classes of hydrocarbon
	HCHOWT	62-65	F4.2	Weight percent hydrocarbon adjustment factor for aldehyde and methane
	NOWT	66-69	F4.1	Weight percent of NO
	NO2WT	70-73	F4.1	Weight percent of NO2
		80	A1	"2"
3	SCPP2	1-13	A13	EQ " "
	ISCC	14-61	I8	See card type 2
	PSPLIT	22-61	10I4	See card type 2
	HCHOWT	62-65	F4.1	See card type 2
	NOWT	66-69	F4.1	See card type 2
	NO2WT	70-73	F4.1	See card type 2
		80	A1	"2"

3.16. Structure Chart of Hydrocarbon Splits File

HC SPLITS FILE

090883


POLLUTANT SPLIT FILE
CARD 1
FILE BODY
C•60 TITLE1
C•6 CDATE
C•8 CTIME
SPECIFIC SPLITS
GENERAL SPLITS
POLLUTANT* SPLITS
POLLUTANT* SPLIT
CARD 2
CARD 3
C•13 SCPP1
ISCC I
PSPLIT (10) R
A
C•13 SCPP2
ISCC I
PSPLIT R
A
NE BLANK
SPECIE CLASS *
EQ BLANK
SPECIE CLASS *
MF R
MF R
A
HCHOWT R
NOWT R
NO2WT R

PSPLIT2
120882/130208

3.17. PSPLIT Report File

File: PSPLIT Report File

File Characteristics:
Recording Mode: Card image
Record Size: 132 characters
Number of Pages: le 200

File Description:

This alternate printfile contains the following reports: specie class file sorted by SAROAD code, specie class file sorted by class number, hydrocarbon profile file sorted by profile id, scc profile file sorted by profile id, and the hydrocarbon splits file sorted by SCC code.

3.18. Chemistry Trace Print File

File: Chemistry Trace Printfile

File Characteristics:
Recording Mode: Card image
Record Size: 132 characters
Number of Pages: le 200

File Description:

This alternate printfile created by subprogram POLDEF contains a trace of the steps taken in calculating the hydrocarbon splits.

4. File Usage

4.1 File Assignment Table For PSPLIT

Program: PSPLIT

Unit Num.	Internal Filename	Volume of Dataset	Description
2	none	le 1400 cards	SCC Profile File1
3	none	le 1400 cards	SCC Profile File2
7	none	le 500 cards	Specie Class File (Input)
8	none	le 500 cards	Specie Class File (Output)
9	none	le 200 pages	PSPLIT Report File
10	none	le 2000 cards	Hydrocarbon Profile File (Input)
11	none	le 2000 cards	Hydrocarbon Profile File (Output)
12	none	le 1400 cards	Hydrocarbon Splits File
13	none	le 200 pages	Chemistry Trace Print File

4.2 Example Runstream For PSPLIT

Program: PSPLIT

```
@RUN,R/R RUNID/140,ACCOUNT/USERID,PROJECT/UID,TIME,PAGES
@ . RUNSTREAM IS IN NEROS*WTSVOC3.PSPLIT/VS2-DOC
@SYM PRINT$.,1,DEVICE
@ASG,A NEROS*WTSVOC3.
@ASG,A SCC-PROFILE1.
@USE 2.,SCC-PROFILE1.
@ASG,T SCC-PROFILE2.
@USE 3.,SCC-PROFILE2.
@ASG,A SPECIE-CLAS1.
@USE 7.,SPECIE-CLAS1.
@ASG,T SPECIE-CLAS2.
@USE 8.,SPECIE-CLAS2.
@ASG,A PSPLIT-PRINT.
@USE 9.,PSPLIT-PRINT.
@ASG,A HC-PROFILE1.
@USE 10.,HC-PROFILE1.
@ASG,T HC-PROFILE2.
@USE 11.,HC-PROFILE2.
@ASG,A HC-SPLITS.
@USE 12.,HC-SPLITS.
@ASG,A $01$CHEM-PR.
@USE 13.,$01$CHEM-PR.
@XQT NEROS*WTSVOC3.PSPLIT/VS2
'NO'
'NO'
@SYM,U PSPLIT-PRINT.,1,DEVICE
```

4.3. File Assignment Table For PSPLIT/VS2

Program: PSPLIT/VS2

Unit Num.	Internal Filename	Volume of Dataset	Description
2	none	le 1400 cards	SCC Profile File1
3	none	le 1400 cards	SCC Profile File2
7	none	le 500 cards	Specie Class File (Input)
8	none	le 500 cards	Specie Class File (Output)
9	none	le 200 pages	PSPLIT Report File
10	none	le 2000 cards	Hydrocarbon Profile File (Input)
12	none	le 1400 cards	Hydrocarbon Splits File
13	none	le 200 pages	Chemistry Trace Print File

4.4. Example Runstream For PSPLIT/VS2

Program: PSPLIT

```
@RUN,R/R RUNID/85,ACCOUNT/USERID,PROJECT/UID,TIME,PAGES
@ . RUNSTREAM IS IN NEROS*WTSVOC3.PSPLIT/VS2-DOC
@SYM PRINT$.,1,DEVICE
@ASG,A NEROS*WTSVOC3.
@ASG,A SCC-PROFILE1.
@USE 2.,SCC-PROFILE1.
@ASG,T SCC-PROFILE2.
@USE 3.,SCC-PROFILE2.
@ASG,A SPECIE-CLAS1.
@USE 7.,SPECIE-CLAS1.
@ASG,T SPECIE-CLAS2.
@USE 8.,SPECIE-CLAS2.
@ASG,A PSPLIT-PRINT.
@USE 9.,PSPLIT-PRINT.
@ASG,A HC-PROFILE1.
@USE 10.,HC-PROFILE1.
@ASG,A HC-SPLITS.
@USE 12.,HC-SPLITS.
@ASG,A $01$CHEM-PR.
@USE 13.,$01$CHEM-PR.
@XQT NEROS*WTSVOC3.PSPLIT/VS2
'NO'
'NO'
@SYM,U PSPLIT-PRINT.,1,DEVICE
```

```
 ** HYDROCARBON SPLITS REPORT SORTED BY SCPP ID AND SCC CODE **

CREATION DATE/TIME OF PSPLIT FILE:090983/172645  DATE/TIME OF LISTING:  090983/172645 NAME OF PRINTFILE:NEROS*$01$PSPLIT(1)
TITLE CARD:DEMERJIAN CHEMISTRY:1=PAR,2=OLE,3=ARO,4=ALD,5=M/S,6=MET,7=NR        090983/172645

                                              PROFILE MOLE FACTORS X 100 (MOLES PER KG)
NO. PROF  ALDE    SCPP         SCC      CLID   CLID   CLID   CLID   CLID   CLID   CLID   CLID   CLID   CLID   ALDE  NOVT   NJZW
    KEY   CODE    CODE         CODE     C01    C02    C03    C04    C05    C06    C07    C08    C09    C10    ADJUS  (%)    (%)
  1 KU011                    30300301  11.3 1043.7    7.5     .0   46.1 2824.2  446.6     .0     .0     .0     .0   95.0    5.
  2 KU011 NMHC               30300302  20.7 1902.0   13.      .0   84.2 5163.1  816.4     .0     .0     .0   45.3   95.0    5.
```

5. Example Use of Program PSPLIT

5.1. Step 1: Catalog Files

Step 1:

Catalog files as necessary.

```
@CAT SCC-PROFILE1.
@CAT SPECIE-CLAS1.
@CAT PSPLIT-PRINT.
@CAT HC-PROFILE1.
@CAT HC-SPLITS.
@CAT $01$CHEM-PR(+1).
```

5.2. Step 2: Create SCC Profile File

Step 2:

Code SCC profile cards and insert the cards into file SCC-PROFILE1..

```
@ASG,A SCC-PROFILE1.
@ . DATA CARDS ARE IN ELEMENT NEROS*WTSVOCDATA.SCC-PROFILE/TEST2
@DATA,IN SCC-PROFILE1.
             30300301 K0011
             30300302 K0011NMHC

@END
```

5.7. Step 7: List Calculated Mole Factors

Step 7:

List contents of file HC-SPLITS. which are the mole factors for the ten specie classes for each SCC code.

```
@ASG,A HC-SPLITS.
@ . DATA CARDS ARE IN ELEMENT NEROS*WTSVOCDATA.HC-SPLITS/TEST2
@DATA,L HC-SPLITS.
DEMERJIAN CHEMISTRY:1=PAR,2=OLE,3=ARO,4=ALD,5=MIS,6=MET,7=NR       090983/172645
             30300301001110440008000000462824044700000000000000000009500050      2
             30300302002119080014000000845163081600000000000000453009500050      2
@END
```

5.3. Step 3: Create Specie Class File

Step 3:

Code the specie class cards and insert the cards into file SPECIE-CLAS1..

```
@ASG,A SPECIE-CLAS1.
@ . DATA CARDS ARE IN ELEMENT NEROS*WTSVOCDATA.SPECIE-CLASS/TEST2
@DATA,L SPECIE-CLAS1.
DEMERJIAN CHEMISTRY:1=PAR,2=OLE,3=ARO,4=ALD,5=MIS,6=MET,7=NR
 C01      PARAFFIN            PARAFFIN
 C02      OLEFIN              OLEFIN
 C03      AROMATIC            AROMATIC
 C04      CARBONYL            CARBONYL
 C05      MISCELLANEOUS       MISCELLANEOUS
 C06      METHANE             METHANE
 C07      NON-REACTIVE        NON-REACTIVE
 C08      NOT USED            NOT USED
 C09      NOT USED            NOT USED
 C10      NOT USED            NOT USED
43204   01      44.09 0000     PROPANE
43203   02      28.05 0000     ETHYLENE
43205   02      42.08 0000     PROPYLENE
43213   02      56.10 0000     BUTENE
43218   02      54.09 0000     1,3-BUTADIENE
45202   03      92.13 0000     TOLUENE
43206   05      26.04 0000     ACETYLENE
43201   06      16.04 0000     METHANE
43202   07      30.07 0000     ETHANE
45201   07      78.11 0000     BENZENE

@END
```

5.4. Step 4: Create Hydrocarbon Profile File

Step 4:

Code the hydrocarbon profile cards and insert the cards into file HC-PROFILE1..

```
@ASG,A HC-PROFILE1.
@ . DATA CARDS ARE IN ELEMENT NEROS*WTSVOCDATA.HC-PROFILE/TEST2
@DATA,IN HC-PROFILE1.
K0011     95.00   5.00  00.00  303003                                          2
K0011  43204         .50       44.09    PROPANE                               13
K0011  43203       27.70       28.05    ETHYLENE                              23
K0011  43205        1.90       42.08    PROPYLENE                             33
K0011  43213         .10       56.10    BUTENE                                43
K0011  43218         .50       54.09    1,3-BUTADIENE                         53
K0011  45202         .70       92.13    TOLUENE                               63
K0011  43206        1.20       26.04    ACETYLENE                             73
K0011  43201       45.30       16.04    METHANE                               83
K0011  43202        8.00       30.07    ETHANE                                93
K0011  45201       14.10       78.11    BENZENE                              103
@END
```

5.5. Step 5: Execute the PSPLIT Program

Step 5:

Execute the PSPLIT program to calculate the mole factors for the ten specie classes for each scc code.

```
@RUN,R/R RUNID/140,ACCOUNT/USERID,PROJECT/UID,TIME,PAGES
@ . RUNSTREAM IS IN NEROS*WTSVOC3.PSPLIT-XQT1/DOC
@SYM PRINT$.,1,DEVICE
@ASG,A NEROS*WTSVOC3.
@ASG,A SCC-PROFILE1.
@USE 2.,SCC-PROFILE1.
@ASG,T SCC-PROFILE2.
@USE 3.,SCC-PROFILE2.
@ASG,A SPECIE-CLAS1.
@USE 7.,SPECIE-CLAS1.
@ASG,T SPECIE-CLAS2.
@USE 8.,SPECIE-CLAS2.
@ASG,A PSPLIT-PRINT.
@USE 9.,PSPLIT-PRINT.
@ASG,A HC-PROFILE1.
@USE 10.,HC-PROFILE1.
@ASG,T HC-PROFILE2.
@USE 11.,HC-PROFILE2.
@ASG,A HC-SPLITS.
@USE 12.,HC-SPLITS.
@ASG,A $01$CHEM-PR.
@USE 13.,$01$CHEM-PR.
@XQT NEROS*WTSVOC3.PSPLIT
 'NO'
 'NO'
@SYM,U PSPLIT-PRINT.,1,DEVICE
```

5.6. Step 6: Print PSPLIT Report

Step 6:

The following report was generated by program PSPLIT. A copy of the alternate print file is in file NEROS*PSPLIT-TEST2.

```
**S C C PROFILE REPORT SORTED BY PROFILE ID**

FILE CREATION DATE/TIME: 090983/172645 DATE/TIME OF LISTING: 090983/172645  NAME OF PRINTFILE: NEROS*3053PSPLIT1(1)


HYDROCARBON PROFILE ID: X0011
  1: SCPP ID:                  SCC CODE: 30300301    HC ADJUSTMENT:
  2: SCPP ID:                  SCC CODE: 30300302    HC ADJUSTMENT: NMHC
```

```
** HYDROCARBON PROFILE REPORT SORTED BY PROFILE ID AND SAROAD CODE

CREATION DATE/TIME OF FILE: 09098DATE/TIME OF LISTING: 090983/172645  NAME OF PRINTFILE: NEROS*SOSSPSPLIT1(1)

IPR:    1     PRKEY: K0011     NO(%): 95.00     NO2(%):  5.00     HCHO(%):   .00
                               REF: 303003      COMMENT:

     ISP      SAROAD       SPECIE WT        SPECIE MW                     SPECIE NAME
                CODE          (%)           (GMS/MOLE)
    -----     ------      ----------       ----------     -----------------------------------------
        1      43204             .50            44.09         PROPANE
        2      43203           27.70            28.05         ETHYLENE
        3      43205            1.90            42.08         PROPYLENE
        4      43213             .10            56.10         BUTENE
        5      43218             .50            54.09         1,3-BUTADIENE
        6      45202             .70            92.13         TOLUENE
        7      43206            1.20            26.04         ACETYLENE
        8      43201           45.30            16.04         METHANE
        9      43202            8.00            30.07         ETHANE
       10      45201           14.10            78.11         BENZENE
```

```
** DEFINITION OF SPECIE CLASSES **

CREATION DATE/TIME OF FILE: 090983/172645   DATE/TIME OF LISTING: 090983/172645 NAME OF PRINTFILE: NEROS*SOSSPSPLIT1(1)

CHEMISTRY TITLE: DEMERJIAN CHEMISTRY:1=PAR,2=OLE,3=ARO,4=ALD,5=MIS,6=MET,7=NR

    NO.      CLASS ID        CLASS NAME      AVE MOL WT    NSPEC

                                             (GMS/MOLE)
-----       ------     ----------------     ----------    -----
      1       C01      PARAFFIN                  44.09        1
      2       C02      OLEFIN                    45.08        4
      3       C03      AROMATIC                  92.13        1
      4       C04      CARBONYL                    .00        0
      5       C05      MISCELLANEOUS             26.04        1
      6       C06      METHANE                   16.04        1
      7       C07      NON-REACTIVE              54.09        2
      8       C08      NOT USED                    .00        0
      9       C09      NOT USED                    .00        0
     10       C10      NOT USED                    .00        0
```

```
   **  SPECIE CLASS REPORT SORTED BY SPECIE CODE  **

CREATION DATE/TIME OF FILE: 090983/172645   DATE/TIME OF LISTING: 090983/172645 NAME OF PRINTFILE: NEROS*SUSSPSPLIT1(1)
    NO.    SPECIE     CLASS     CLASS ID      CLASS NAME     CLASS MW     SPECIE MW  #SINGLE                          SPECIE NAME
           CODE                                              (GMS/MOLE)   (GMS/MOLE) BONDS
  ------ --------   ------    ------    ---------------- ----------   ---------   ------ ------------------------------------- --
      1  43201         6        C06     METHANE                16.04       16.04       0   METHANE
      2  43202         7        C07     NON-REACTIVE           54.09       30.07       0   ETHANE
      3  43203         2        C02     OLEFIN                 45.08       28.05       0   ETHYLENE
      4  43204         1        C01     PARAFFIN               44.09       44.09       0   PROPANE
      5  43205         2        C02     OLEFIN                 45.06       42.08       0   PROPYLENE
      6  43206         5        C05     MISCELLANEOUS          26.04       26.04       0   ACETYLENE
      7  43213         2        C02     OLEFIN                 45.06       56.10       0   BUTENE
      8  43218         2        C02     OLEFIN                 45.08       54.09       0   1,3-BUTADIENE
      9  45201         7        C07     NON-REACTIVE           54.09       78.11       0   BENZENE
     10  45202         3        C03     AROMATIC               92.13       92.13       0   TOLUENE
```

```
** SPECIE CLASS REPORT SORTED BY CLASS NO.**

CREATION DATE/TIME OF FILE: 090983/172645     DATE/TIME OF LISTING: 090983/172645NAME OF PRINTFILE:NEROS*SOS$PSPLIT1(1)
     CLASS NO.=  1     CLASSID=  C01     CLASS NAME= PARAFFIN              AVE.MOL.WT. (GMS/MOLE) =      44.09

  NO.     SAROAD     SPECIE MW   # SINGLE                        SPECIE NAME
           CODE     (GMS/MOLE)   BONDS
 ----   --------   ----------   ------   ------------------------------------------
    1   43204           44.09        0   PROPANE
```

```
** SPECIE CLASS REPORT SORTED BY CLASS NO.**

CREATION DATE/TIME OF FILE: 090983/172645     DATE/TIME OF LISTING: 090983/172645NAME OF PRINTFILE;NEROS*SUSSPSPLIT1(1)
     CLASS NO.=  2     CLASSID=  CU2     CLASS NAME= OLEFIN               AVE.MOL.WT. (GMS/MOLE) =      45.08

    NO.    SAROAD    SPECIE MW    # SINGLE                     SPECIE NAME
            CODE     (GMS/MOLE)   BONDS
   ----   --------   ----------   ------   ----------------------------------------
      1   43203           28.05        0   ETHYLENE
      2   43205           42.08        0   PROPYLENE
      3   43213           56.10        0   BUTENE
      4   43218           54.09        0   1,3-BUTADIENE
```

```
** SPECIE CLASS REPORT SORTED BY CLASS NO.**

CREATION DATE/TIME OF FILE: 090983/172645     DATE/TIME OF LISTING: 090983/172645NAME OF PRINTFILE:NEROS*SUSSPSPLIT1(1)
     CLASS NO.=  3      CLASSID=  C03      CLASS NAME= AROMATIC              AVE.MOL.WT. (GMS/MOLE) =       92.13

   NO.    SAROAD     SPECIE MW   # SINGLE                        SPECIE NAME
           CODE     (GMS/MOLE)  BONDS
  ----   --------   ----------  ------   ----------------------------------------
     1   45202           92.13       0   TOLUENE
```

```
** SPECIE CLASS REPORT SORTED BY CLASS NO.**

CREATION DATE/TIME OF FILE: 090983/172645     DATE/TIME OF LISTING: 090983/172645NAME OF PRINTFILE:NEROS*SOS$PSPLIT1(1)
     CLASS NO.=  6     CLASSID=  C06     CLASS NAME= METHANE                AVE.MOL.WT. (GMS/MOLE) =      16.04

    NO.     SAROAD     SPECIE MW   # SINGLE                        SPECIE NAME
             CODE      (GMS/MOLE)   BONDS
   ----    --------    ----------   ------    -------------- ---------------------------
      1    43201            16.04        0    METHANE
```

```
** SPECIE CLASS REPORT SORTED BY CLASS NO.**

CREATION DATE/TIME OF FILE: 090983/172645     DATE/TIME OF LISTING: 090983/172645NAME OF PRINTFILE;NEROS*1US$PSPLIT(1)
     CLASS NO.=  5      CLASSID=  C05     CLASS NAME= MISCELLANEOUS        AVE.MOL.WT. (GMS/MOLE) =       26.04

   NO.    SAROAD     SPECIE MW   # SINGLE                     SPECIE NAME
          CODE      (GMS/MOLE)   BONDS
  ----   --------   ----------   ------   ----------------------------------------
     1   43206           26.04        0   ACETYLENE
```

```
** SPECIE CLASS REPORT SORTED BY CLASS NO.**

CREATION DATE/TIME OF FILE: 090983/172645     DATE/TIME OF LISTING: 090983/172645NAME OF PRINTFILE:NEROS*$05$PSPLIT1(1)
     CLASS NO.=  7     CLASSID=  CU7     CLASS NAME= NON-REACTIVE         AVE.MOL.WT. (GMS/MOLE) =      54.09

    NO.    SAROAD     SPECIE MW   # SINGLE                        SPECIE NAME
           CODE      (GMS/MOLE)  BONDS
   ----   --------   ----------  ------   ----------------------------------------
      1   43202           30.07       0   ETHANE
      2   45201           78.11       0   BENZENE
```

6. Descriptions of Main Program and Subroutines

6.1. Subroutine Function Summary

Program: PSPLIT

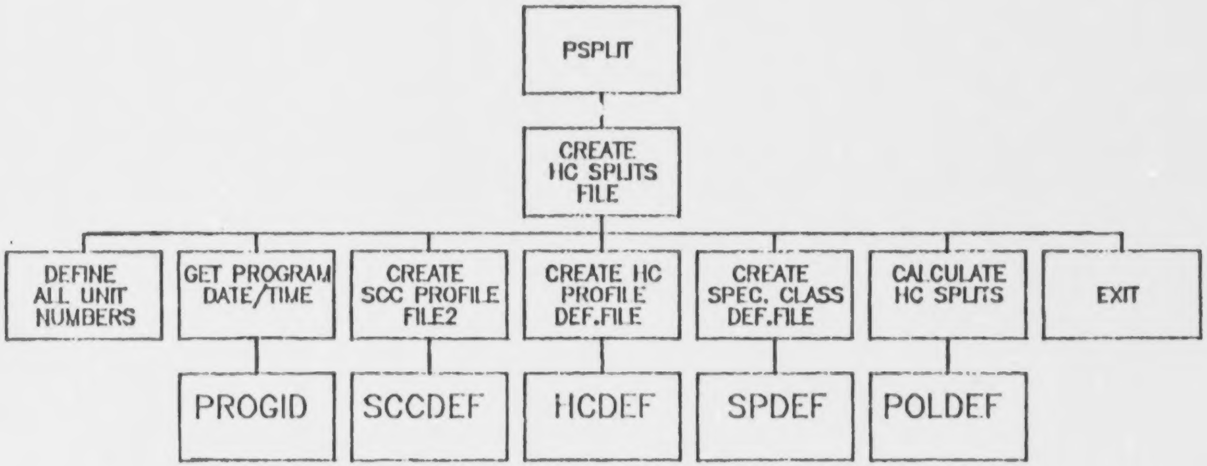
PSPLIT/VS2	Low core version of PSPLIT, allows run during day. No hydrocarbon definition file sort.
PSPLIT	Main program
ACOMPB	Logically compares two character strings
CHAIN2	Inserts key into or retrieves key from hashing table
CHEM	Computes allocation factors for each specie class for a SCC code
FLNAM2	Retrieves external filename
H2CO	Searches list of profile species for methane
HCDEF	Creates hydrocarbon profile definition file
HCDEF/VS2	Creates hydrocarbon profile definition file. No sort version.
JPROF1	Finds profile id in hashing table
JSPEC1	Finds specie SAROAD code in hashing table
LAJA	Left justifies character string
LEN2	Counts number of heading blanks in string
LIST1	Prints report of hydrocarbon splits for each SCC code
LIST3A	Writes rintermediate file for profile SCC report
LIST3B	Prints profile SCC report
LISTA	Prints specie report sorted by SAROAD code
LISTB	Prints specie report sorted by class
LISTC	Prints hydrocarbon profile report
MATCH	Logically compares two strings for equality
MERGE	Splits species in profile into classes
MOVE4	Moves one buffer area into another buffer area
POLDEF	Creates hydrocarbon splits file
PROGID	Prints current date and time
REMBLK	Removes embedded blanks in character string
REORDR	Reorders records in internal file using a key list
SCCDEF	Creates SCC profile file2
SORT4	Sorts character records in internal file
SPDEF	Creates specie class definition file

6.2. Structure Charts of Main Program and Subroutines

Program: PSPLIT

PSPLIT PROGRAM

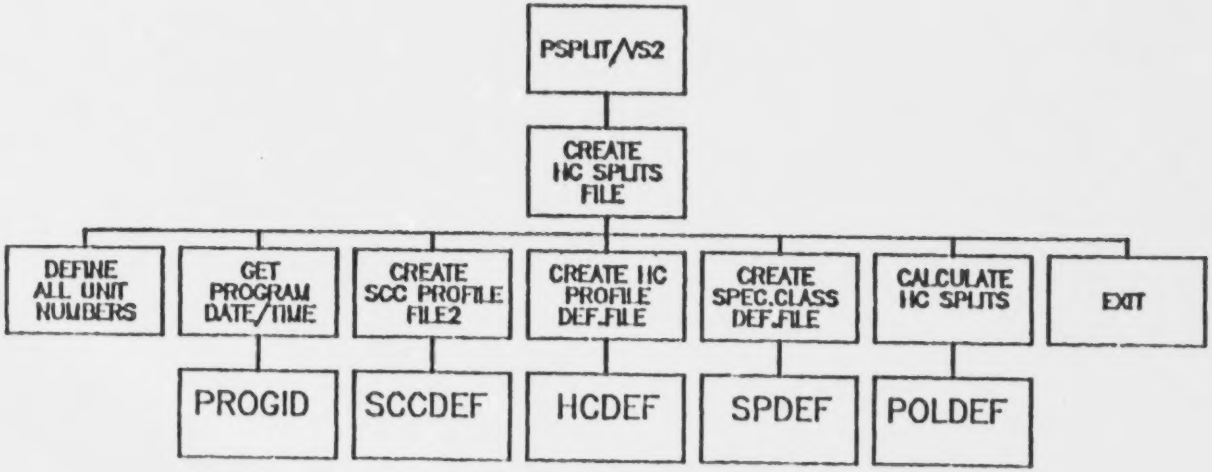
031683



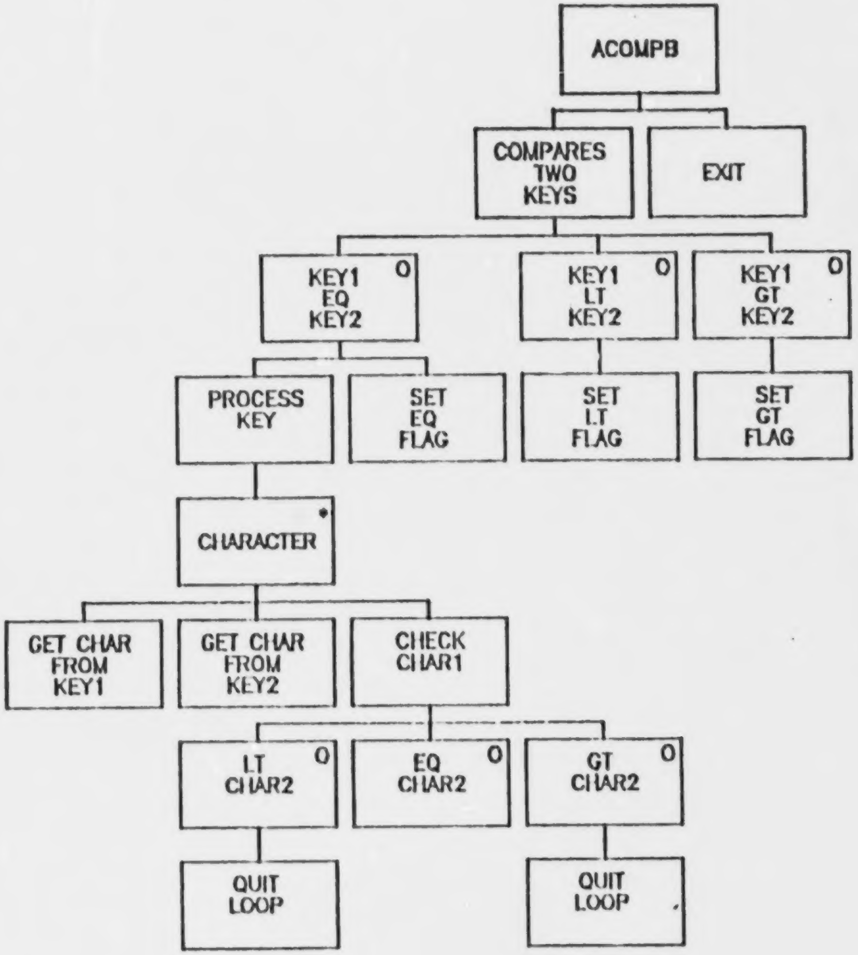
PSPLIT
CREATE HC SPLITS FILE
DEFINE ALL UNIT NUMBERS
GET PROGRAM DATE/TIME
CREATE SCC PROFILE FILE2
CREATE HC PROFILE DEF.FILE
CREATE SPEC. CLASS DEF.FILE
CALCULATE HC SPLITS
EXIT
PROGID
SCCDEF
HCDEF
SPDEF
POLDEF

PSPLIT1
011083/104648

PSPLIT/VS2

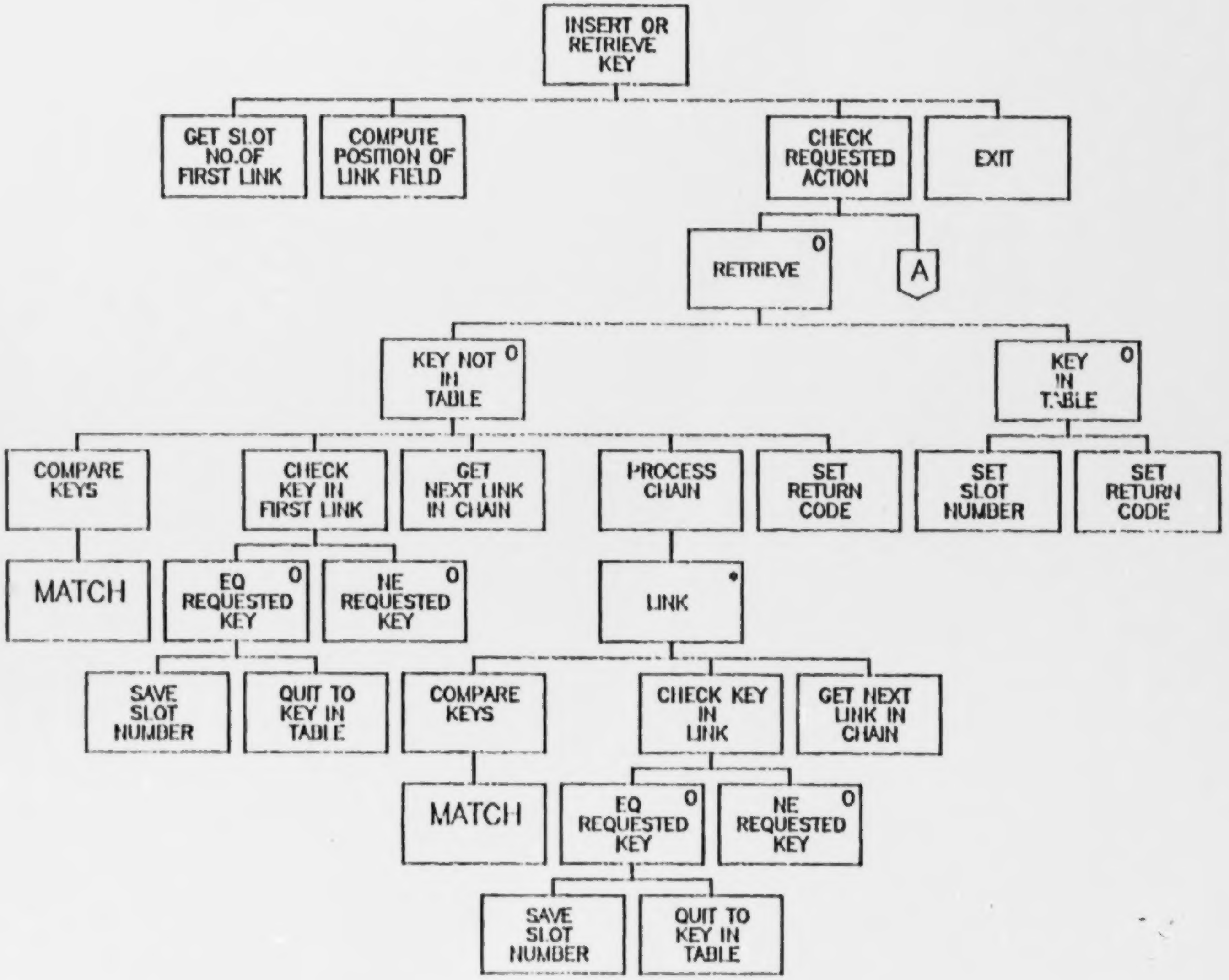

PSPLIT/VS2
CREATE HC SPLITS FILE
DEFINE ALL UNIT NUMBERS
GET PROGRAM DATE/TIME
CREATE SCC PROFILE FILE2
CREATE HC PROFILE DEF.FILE
CREATE SPEC.CLASS DEF.FILE
CALCULATE HC SPLITS
EXIT
PROGID
SCCDEF
HCDEF
SPDEF
POLDEF

ACOMPB 011283


ACOMPB
COMPARES TWO KEYS
EXIT
KEY1 EQ KEY2 O
KEY1 LT KEY2 O
KEY1 GT KEY2 O
PROCESS KEY
SET EQ FLAG
SET LT FLAG
SET GT FLAG
CHARACTER *
GET CHAR FROM KEY1
GET CHAR FROM KEY2
CHECK CHAR1
LT CHAR2 O
EQ CHAR2 O
GT CHAR2 O
QUIT LOOP
QUIT LOOP

ACOMPB
011083/105847

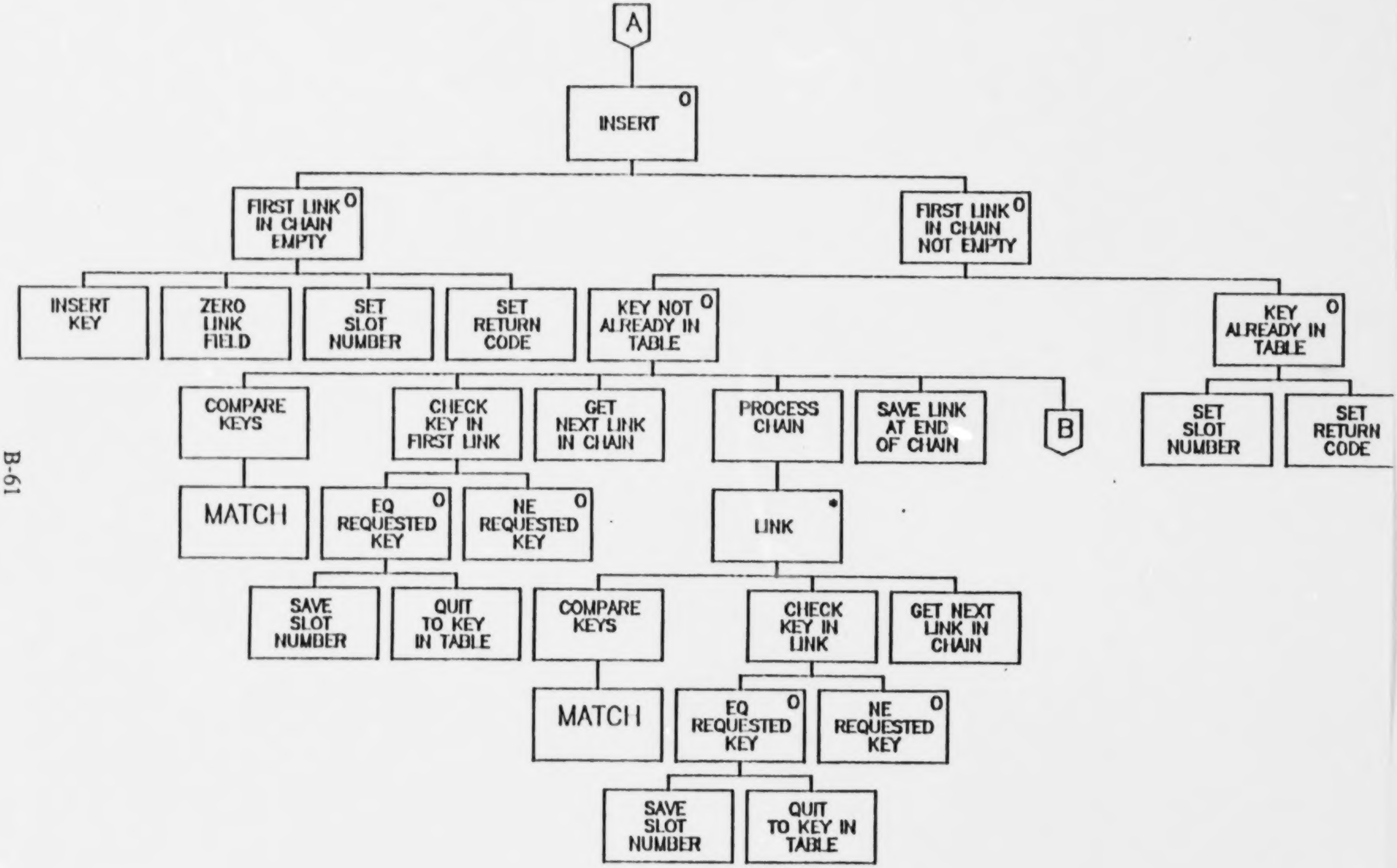
CHAIN2 (PAGE 1 OF 3) 020283


INSERT OR RETRIEVE KEY
GET SLOT NO.OF FIRST LINK
COMPUTE POSITION OF LINK FIELD
CHECK REQUESTED ACTION
EXIT
RETRIEVE
0
A
KEY NOT IN TABLE
0
KEY IN TABLE
0
COMPARE KEYS
CHECK KEY IN FIRST LINK
GET NEXT LINK IN CHAIN
PROCESS CHAIN
SET RETURN CODE
SET SLOT NUMBER
SET RETURN CODE
MATCH
EQ REQUESTED KEY
0
NE REQUESTED KEY
0
LINK
*
SAVE SLOT NUMBER
QUIT TO KEY IN TABLE
COMPARE KEYS
CHECK KEY IN LINK
GET NEXT LINK IN CHAIN
MATCH
EQ REQUESTED KEY
0
NE REQUESTED KEY
0
SAVE SLOT NUMBER
QUIT TO KEY IN TABLE

CHAIN2
020283/113709

CHAIN2 (PAGE 2 OF 3)

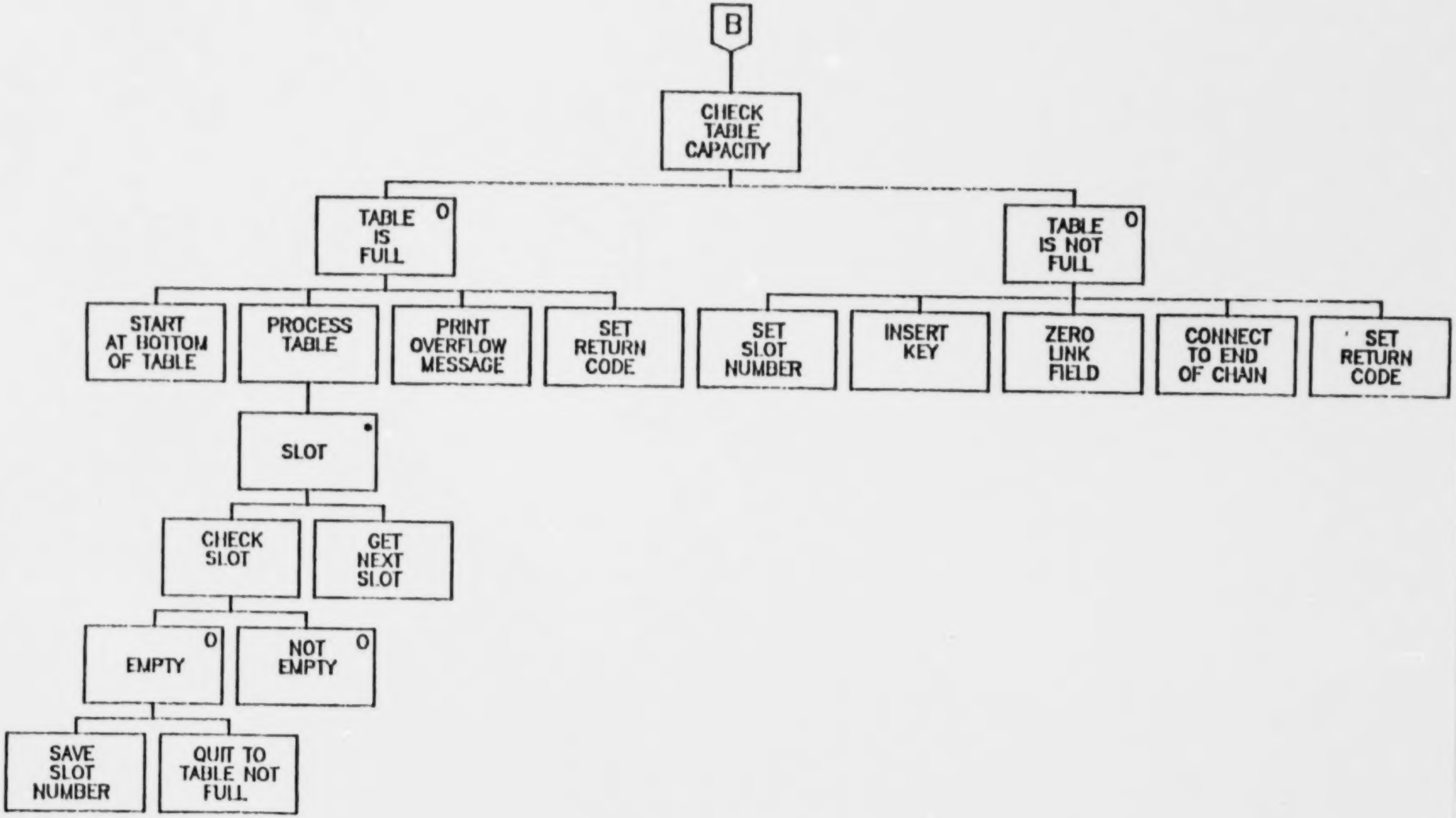
030783


A
INSERT
O
FIRST LINK IN CHAIN EMPTY
O
FIRST LINK IN CHAIN NOT EMPTY
O
INSERT KEY
ZERO LINK FIELD
SET SLOT NUMBER
SET RETURN CODE
KEY NOT ALREADY IN TABLE
O
KEY ALREADY IN TABLE
O
COMPARE KEYS
CHECK KEY IN FIRST LINK
GET NEXT LINK IN CHAIN
PROCESS CHAIN
SAVE LINK AT END OF CHAIN
B
SET SLOT NUMBER
SET RETURN CODE
MATCH
EQ REQUESTED KEY
O
NE REQUESTED KEY
O
LINK
*
SAVE SLOT NUMBER
QUIT TO KEY IN TABLE
COMPARE KEYS
CHECK KEY IN LINK
GET NEXT LINK IN CHAIN
MATCH
EQ REQUESTED KEY
O
NE REQUESTED KEY
O
SAVE SLOT NUMBER
QUIT TO KEY IN TABLE

CHAIN2—A
030783/094403

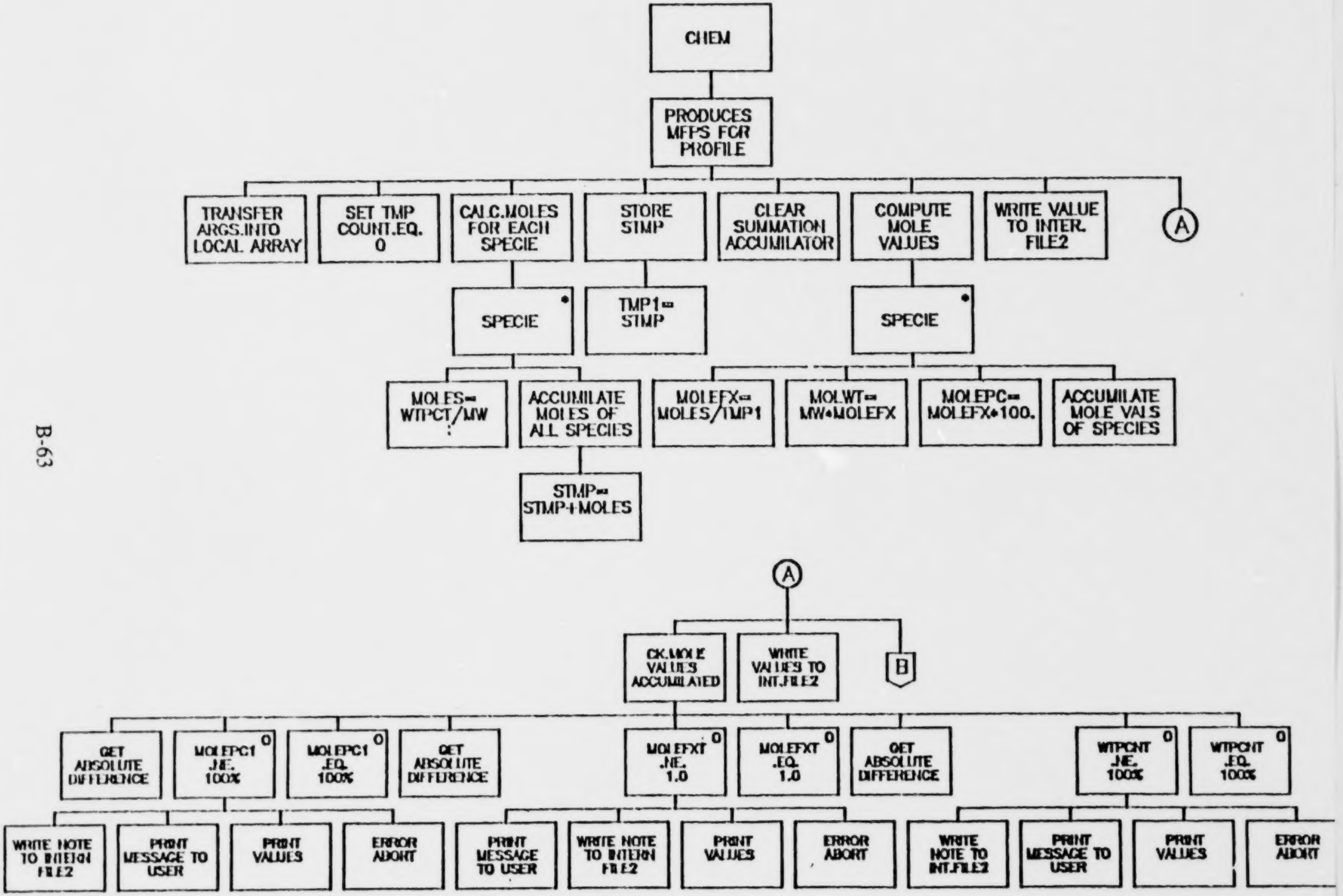
CHAIN2 (PAGE 3 OF 3)

020283


B
CHECK TABLE CAPACITY
TABLE IS FULL
0
TABLE IS NOT FULL
0
START AT BOTTOM OF TABLE
PROCESS TABLE
PRINT OVERFLOW MESSAGE
SET RETURN CODE
SET SLOT NUMBER
INSERT KEY
ZERO LINK FIELD
CONNECT TO END OF CHAIN
SET RETURN CODE
SLOT
•
CHECK SLOT
GET NEXT SLOT
EMPTY
0
NOT EMPTY
0
SAVE SLOT NUMBER
QUIT TO TABLE NOT FULL

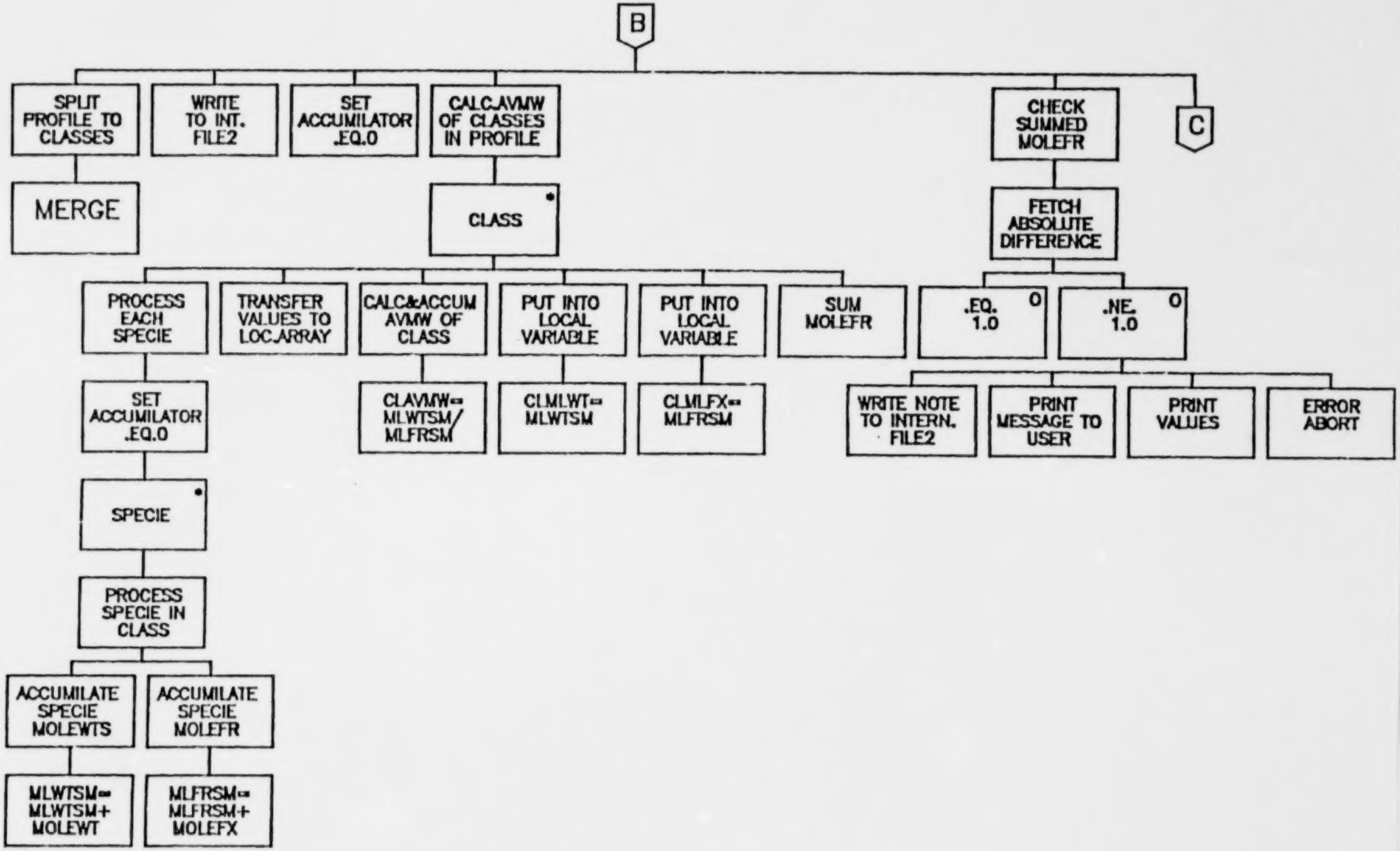
CHAIN2--B
020283/113709

CHEM (PAGE 1 OF 4) 031083


CHEM
PRODUCES MFPS FOR PROFILE
TRANSFER ARGS.INTO LOCAL ARRAY
SET TMP COUNT.EQ. 0
CALC.MOLES FOR EACH SPECIE
STORE STMP
CLEAR SUMMATION ACCUMILATOR
COMPUTE MOLE VALUES
WRITE VALUE TO INTER. FILE2
A
SPECIE
TMP1= STMP
SPECIE
MOLES= WTPCT/MW
ACCUMILATE MOLES OF ALL SPECIES
MOLEFX= MOLES/TMP1
MOLWT= MW*MOLEFX
MOLEPC= MOLEFX*100.
ACCUMILATE MOLE VALS OF SPECIES
STMP= STMP+MOLES
A
CK.MOLE VALUES ACCUMILATED
WRITE VALUES TO INT.FILE2
B
GET ABSOLUTE DIFFERENCE
MOLEPC1 .NE. 100%
MOLEPC1 .EQ. 100%
GET ABSOLUTE DIFFERENCE
MOLEFXT .NE. 1.0
MOLEFXT .EQ. 1.0
GET ABSOLUTE DIFFERENCE
WTPCNT .NE. 100%
WTPCNT .EQ. 100%
WRITE NOTE TO INTERN FILE2
PRINT MESSAGE TO USER
PRINT VALUES
ERROR ABORT
PRINT MESSAGE TO USER
WRITE NOTE TO INTERN FILE2
PRINT VALUES
ERROR ABORT
WRITE NOTE TO INT.FILE2
PRINT MESSAGE TO USER
PRINT VALUES
ERROR ABORT

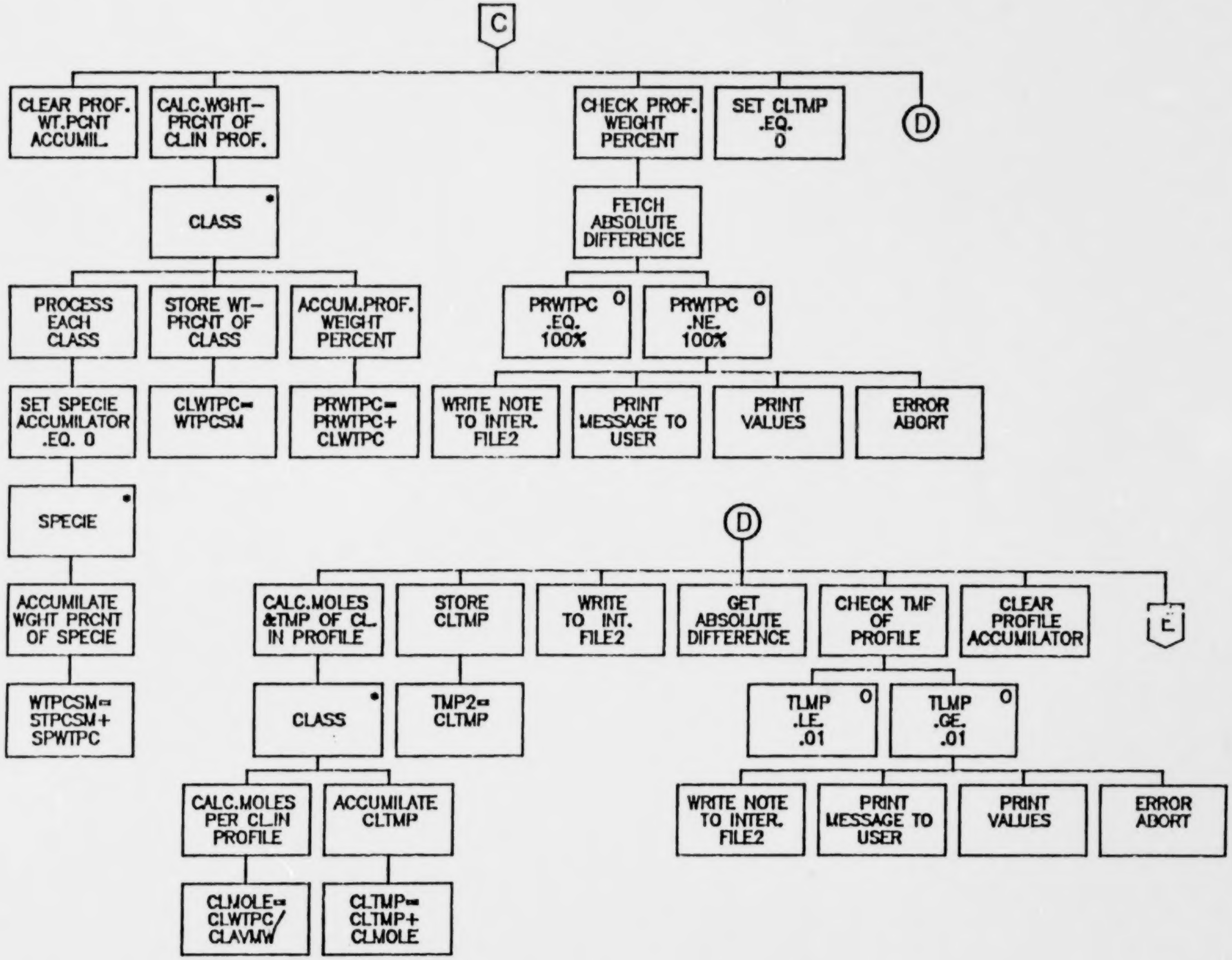
CHEM
031083/133520

CHEM (PAGE 2 OF 4)


B
SPLIT PROFILE TO CLASSES
MERGE
WRITE TO INT. FILE2
SET ACCUMILATOR .EQ.0
CALC.AVMW OF CLASSES IN PROFILE
CLASS
PROCESS EACH SPECIE
SET ACCUMILATOR .EQ.0
SPECIE
PROCESS SPECIE IN CLASS
ACCUMILATE SPECIE MOLEWTS
MLWTSM= MLWTSM+ MOLEWT
ACCUMILATE SPECIE MOLEFR
MLFRSM= MLFRSM+ MOLEFX
TRANSFER VALUES TO LOC.ARRAY
CALC&ACCUM AVMW OF CLASS
CLAVMW= MLWTSM/ MLFRSM
PUT INTO LOCAL VARIABLE
CLMLWT= MLWTSM
PUT INTO LOCAL VARIABLE
CLMLFX= MLFRSM
SUM MOLEFR
CHECK SUMMED MOLEFR
FETCH ABSOLUTE DIFFERENCE
.EQ. 1.0
O
.NE. 1.0
O
WRITE NOTE TO INTERN. FILE2
PRINT MESSAGE TO USER
PRINT VALUES
ERROR ABORT
C

CHEM–B
031083/133520

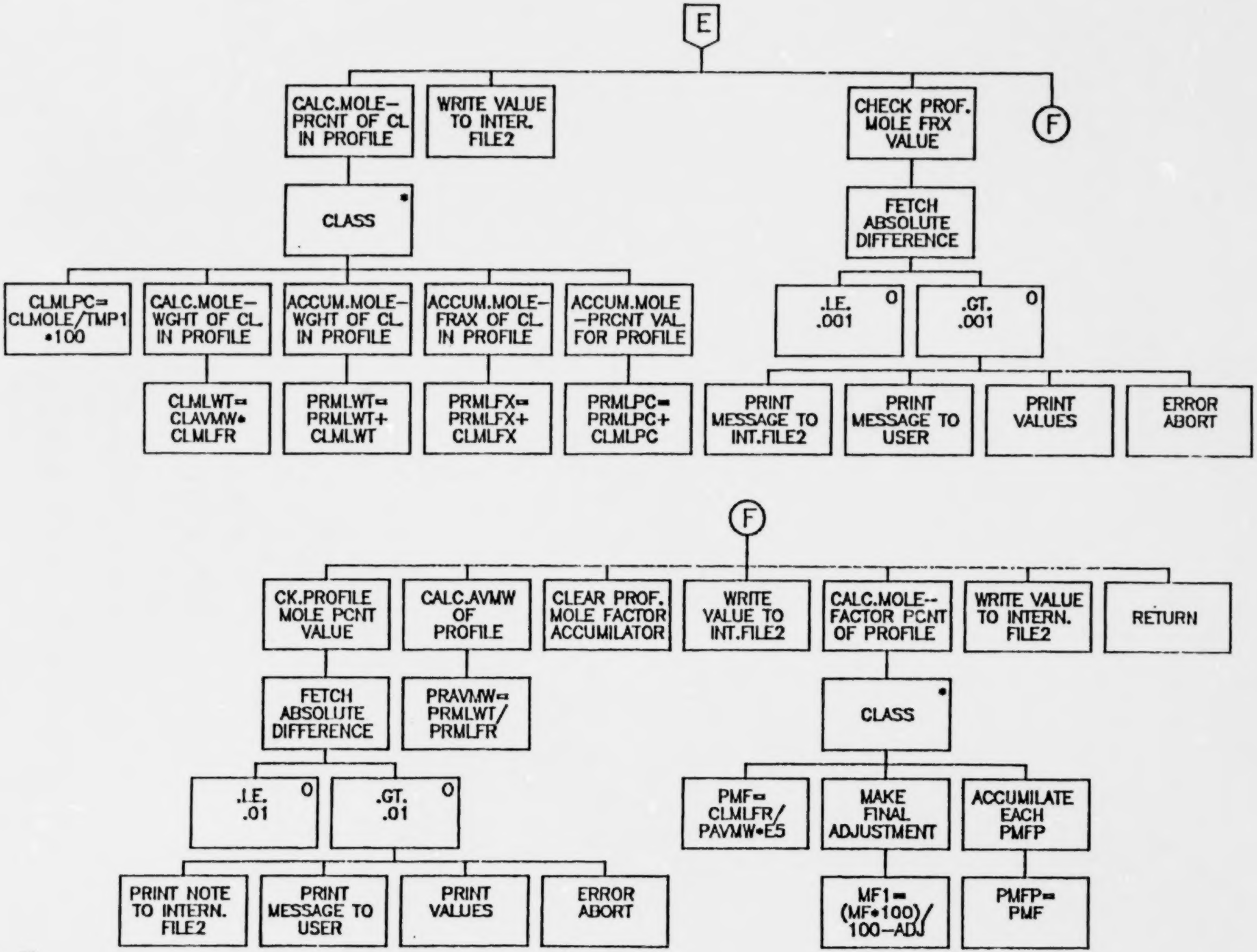
CHEM (PAGE 3 OF 4)


C
CLEAR PROF. WT.PCNT ACCUMIL.
CALC.WGHT-PRCNT OF CL.IN PROF.
CHECK PROF. WEIGHT PERCENT
SET CLTMP .EQ. 0
D
CLASS
FETCH ABSOLUTE DIFFERENCE
PROCESS EACH CLASS
STORE WT-PRCNT OF CLASS
ACCUM.PROF. WEIGHT PERCENT
PRWTPC .EQ. 100%
O
PRWTPC .NE. 100%
O
SET SPECIE ACCUMILATOR .EQ. 0
CLWTPC= WTPCSM
PRWTPC= PRWTPC+ CLWTPC
WRITE NOTE TO INTER. FILE2
PRINT MESSAGE TO USER
PRINT VALUES
ERROR ABORT
SPECIE
ACCUMILATE WGHT PRCNT OF SPECIE
WTPCSM= STPCSM+ SPWTPC
D
CALC.MOLES &TMP OF CL. IN PROFILE
STORE CLTMP
WRITE TO INT. FILE2
GET ABSOLUTE DIFFERENCE
CHECK TMF OF PROFILE
CLEAR PROFILE ACCUMILATOR
E
CLASS
TMP2= CLTMP
TLMP .LE. .01
O
TLMP .GE. .01
O
CALC.MOLES PER CL.IN PROFILE
ACCUMILATE CLTMP
WRITE NOTE TO INTER. FILE2
PRINT MESSAGE TO USER
PRINT VALUES
ERROR ABORT
CLMOLE= CLWTPC/ CLAVMW
CLTMP= CLTMP+ CLMOLE

CHEM-C
031083/142116

CHEM (PAGE 4 OF 4)

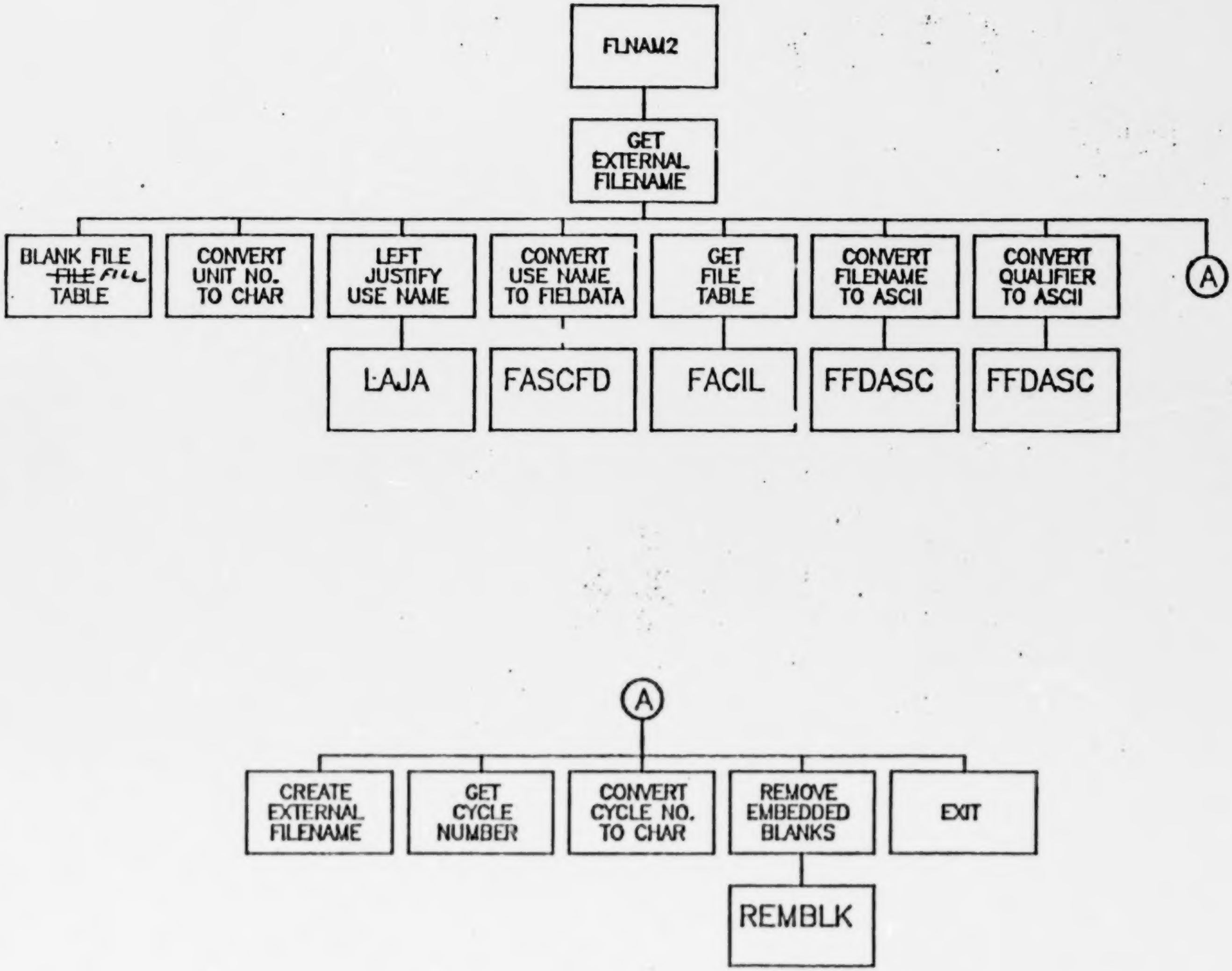
031583


E
CALC.MOLE-PRCNT OF CL IN PROFILE
WRITE VALUE TO INTER. FILE2
CHECK PROF. MOLE FRX VALUE
F
CLASS
CLMLPC= CLMOLE/TMP1 •100
CALC.MOLE-WGHT OF CL IN PROFILE
ACCUM.MOLE-WGHT OF CL IN PROFILE
ACCUM.MOLE-FRAX OF CL IN PROFILE
ACCUM.MOLE -PRCNT VAL FOR PROFILE
CLMLWT= CLAVMW• CLMLFR
PRMLWT= PRMLWT+ CLMLWT
PRMLFX= PRMLFX+ CLMLFX
PRMLPC= PRMLPC+ CLMLPC
FETCH ABSOLUTE DIFFERENCE
.LE. .001
.GT. .001
O
O
PRINT MESSAGE TO INT.FILE2
PRINT MESSAGE TO USER
PRINT VALUES
ERROR ABORT
F
CK.PROFILE MOLE PCNT VALUE
CALC.AVMW OF PROFILE
CLEAR PROF. MOLE FACTOR ACCUMILATOR
WRITE VALUE TO INT.FILE2
CALC.MOLE--FACTOR PCNT OF PROFILE
WRITE VALUE TO INTERN. FILE2
RETURN
FETCH ABSOLUTE DIFFERENCE
PRAVMW= PRMLWT/ PRMLFR
CLASS
.LE. .01
.GT. .01
O
O
PMF= CLMLFR/ PAVMW•E5
MAKE FINAL ADJUSTMENT
ACCUMILATE EACH PMFP
PRINT NOTE TO INTERN. FILE2
PRINT MESSAGE TO USER
PRINT VALUES
ERROR ABORT
MF1= (MF•100)/ 100-ADJ
PMFP= PMF

CHEM-E
031083/142116

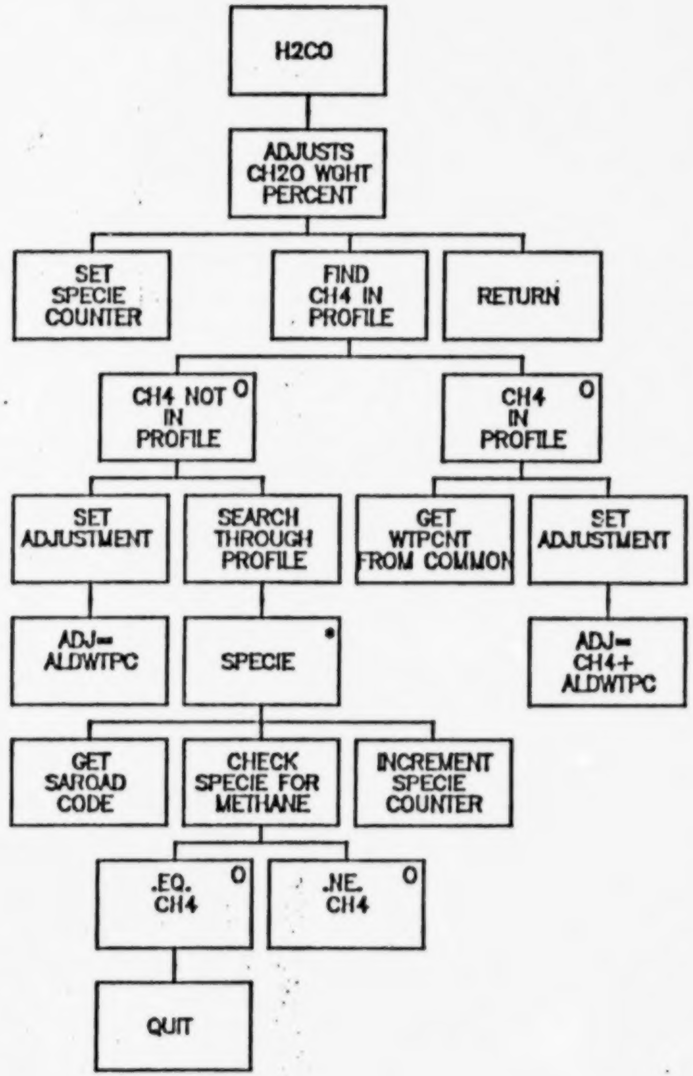
FLNAM2

011283


FLNAM2
GET EXTERNAL FILENAME
BLANK FILE ~~FILE~~ FILL TABLE
CONVERT UNIT NO. TO CHAR
LEFT JUSTIFY USE NAME
CONVERT USE NAME TO FIELDATA
GET FILE TABLE
CONVERT FILENAME TO ASCII
CONVERT QUALIFIER TO ASCII
A
LAJA
FASCFD
FACIL
FFDASC
FFDASC
A
CREATE EXTERNAL FILENAME
GET CYCLE NUMBER
CONVERT CYCLE NO. TO CHAR
REMOVE EMBEDDED BLANKS
EXIT
REMBLK

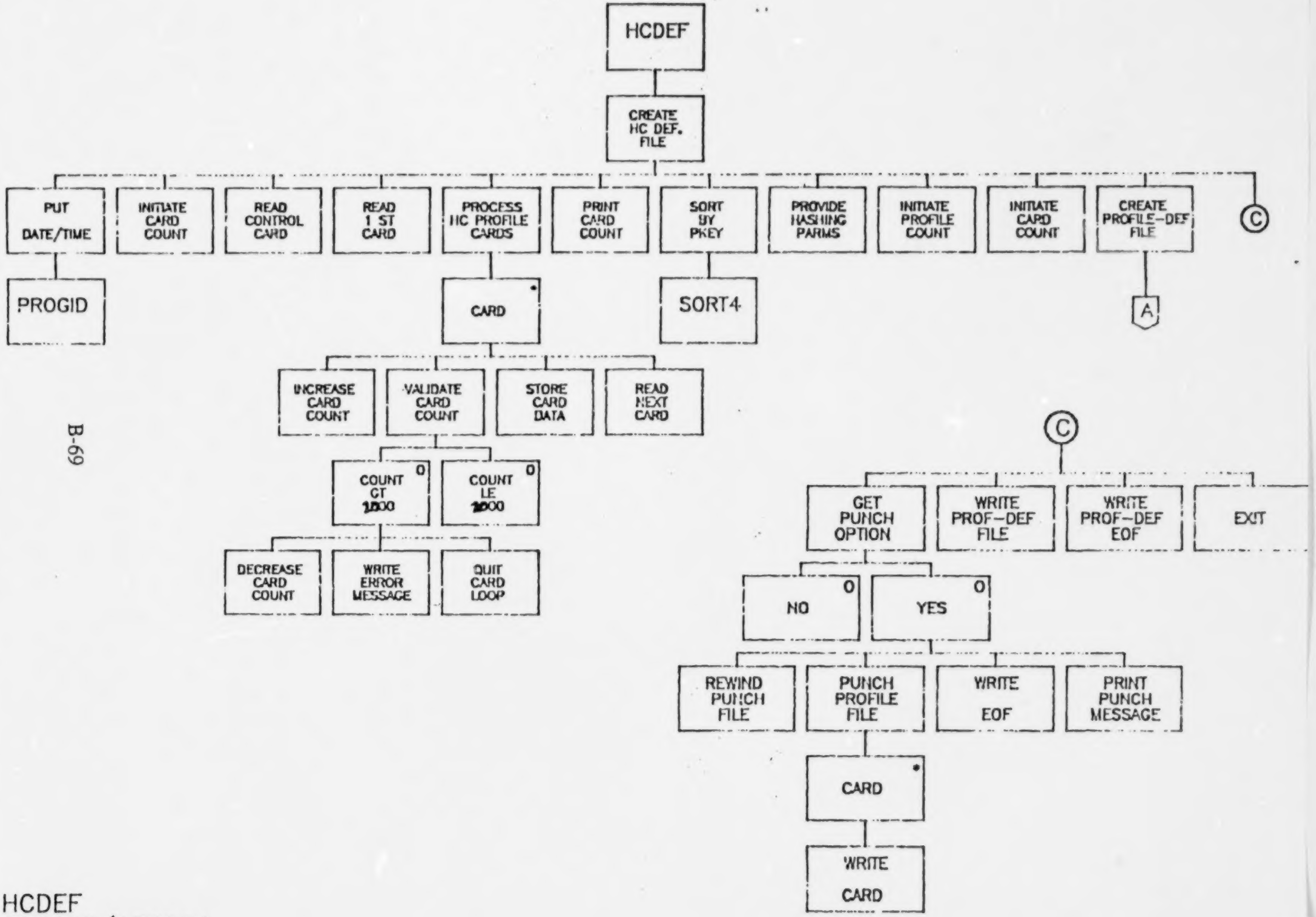
H2CO

102682


H2CO
ADJUSTS CH2O WGHT PERCENT
SET SPECIE COUNTER
FIND CH4 IN PROFILE
RETURN
CH4 NOT IN PROFILE O
CH4 IN PROFILE O
SET ADJUSTMENT
SEARCH THROUGH PROFILE
GET WTPCNT FROM COMMON
SET ADJUSTMENT
ADJ= ALDWTPC
SPECIE *
ADJ= CH4+ ALDWTPC
GET SAROAD CODE
CHECK SPECIE FOR METHANE
INCREMENT SPECIE COUNTER
.EQ. CH4 O
.NE. CH4 O
QUIT

H2CO
102682/131103

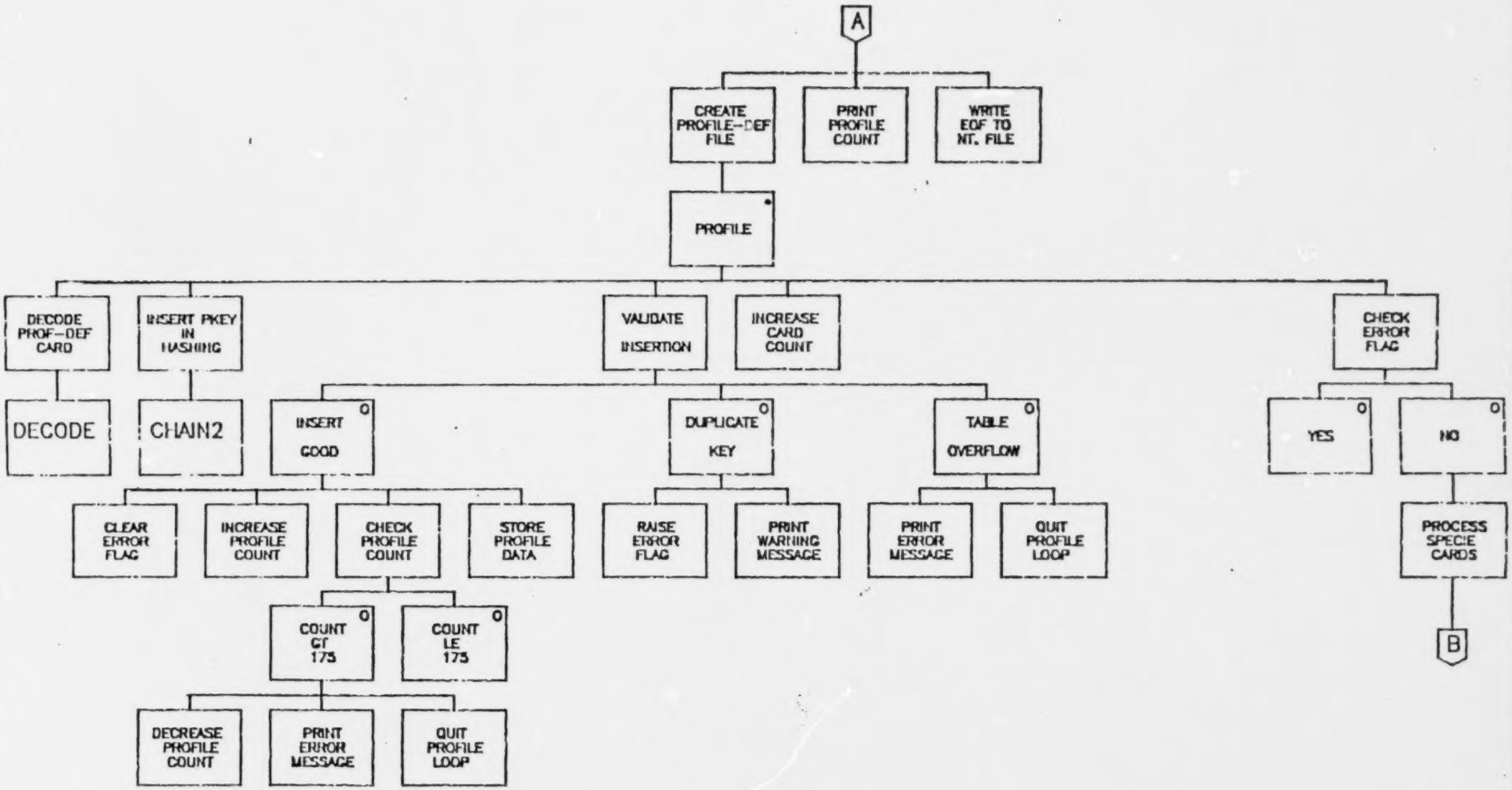
HCDEF (PAGE 1 OF 3)


HCDEF
CREATE HC DEF. FILE
PUT DATE/TIME
INITIATE CARD COUNT
READ CONTROL CARD
READ 1 ST CARD
PROCESS HC PROFILE CARDS
PRINT CARD COUNT
SORT BY PKEY
PROVIDE HASHING PARMS
INITIATE PROFILE COUNT
INITIATE CARD COUNT
CREATE PROFILE-DEF FILE
C
PROGID
CARD *
SORT4
A
INCREASE CARD COUNT
VALIDATE CARD COUNT
STORE CARD DATA
READ NEXT CARD
COUNT GT 2000 O
COUNT LE 2000 O
DECREASE CARD COUNT
WRITE ERROR MESSAGE
QUIT CARD LOOP
C
GET PUNCH OPTION
WRITE PROF-DEF FILE
WRITE PROF-DEF EOF
EXIT
NO O
YES O
REWIND PUNCH FILE
PUNCH PROFILE FILE
WRITE EOF
PRINT PUNCH MESSAGE
CARD *
WRITE CARD

HCDEF
090683/130924

HCDEF(PAGE 2 OF 3)

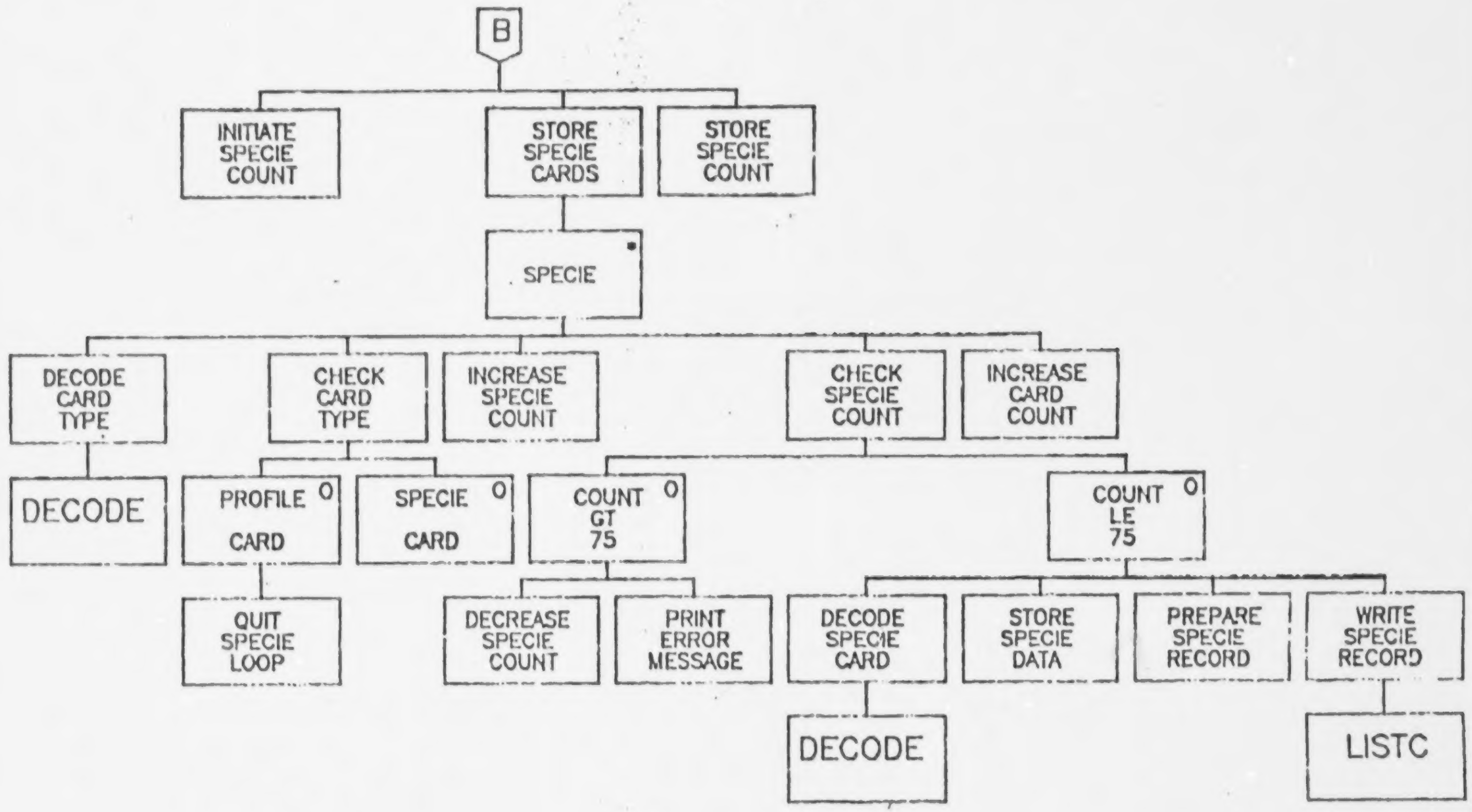
090683


A
CREATE PROFILE-DEF FILE
PRINT PROFILE COUNT
WRITE EOF TO NT. FILE
PROFILE
DECODE PROF-DEF CARD
INSERT PKEY IN HASHING
VALIDATE INSERTION
INCREASE CARD COUNT
CHECK ERROR FLAG
DECODE
CHAIN2
INSERT GOOD
0
DUPLICATE KEY
0
TABLE OVERFLOW
0
YES
0
NO
0
CLEAR ERROR FLAG
INCREASE PROFILE COUNT
CHECK PROFILE COUNT
STORE PROFILE DATA
RAISE ERROR FLAG
PRINT WARNING MESSAGE
PRINT ERROR MESSAGE
QUIT PROFILE LOOP
PROCESS SPECIE CARDS
COUNT GT 175
0
COUNT LE 175
0
B
DECREASE PROFILE COUNT
PRINT ERROR MESSAGE
QUIT PROFILE LOOP

HCDEF-A
080482/142515

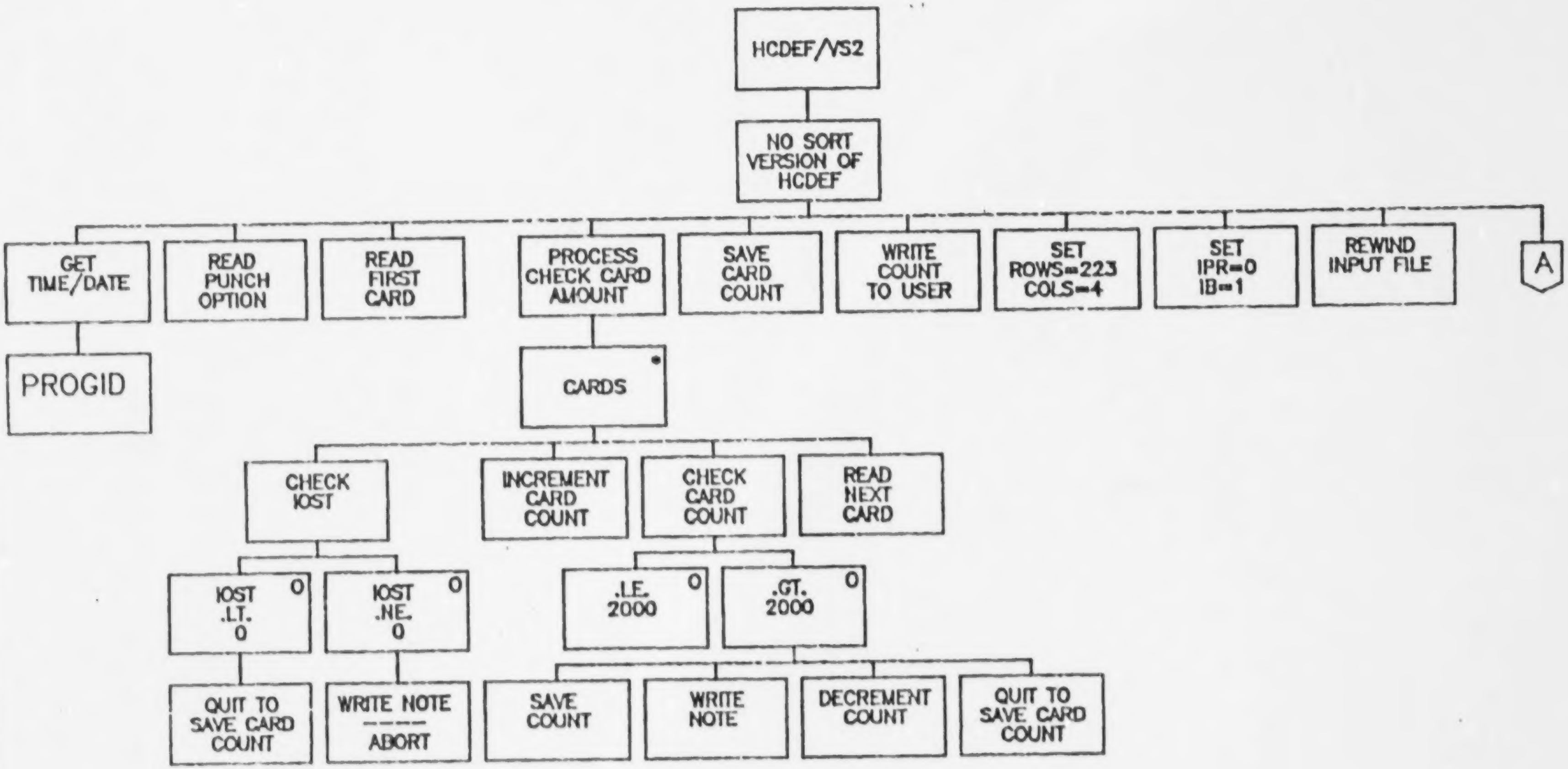
HCDEF (PAGE 3 OF 3)

090683


B
INITIATE SPECIE COUNT
STORE SPECIE CARDS
STORE SPECIE COUNT
SPECIE
DECODE CARD TYPE
CHECK CARD TYPE
INCREASE SPECIE COUNT
CHECK SPECIE COUNT
INCREASE CARD COUNT
DECODE
PROFILE CARD O
SPECIE CARD O
COUNT GT 75 O
COUNT LE 75 O
QUIT SPECIE LOOP
DECREASE SPECIE COUNT
PRINT ERROR MESSAGE
DECODE SPECIE CARD
STORE SPECIE DATA
PREPARE SPECIE RECORD
WRITE SPECIE RECORD
DECODE
LISTC

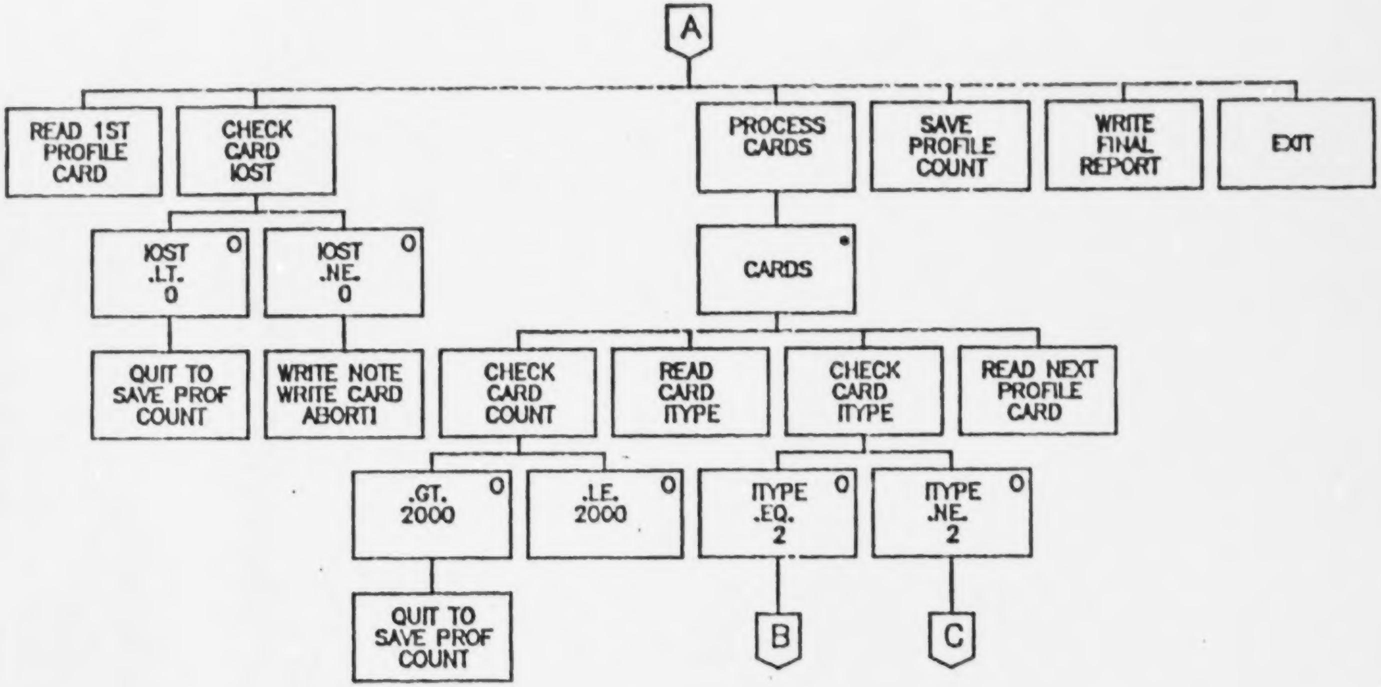
HCDEF–B
090683/113542

HCDEF/VS2 (PAGE 1 OF 4)


HCDEF/VS2
NO SORT VERSION OF HCDEF
GET TIME/DATE
READ PUNCH OPTION
READ FIRST CARD
PROCESS CHECK CARD AMOUNT
SAVE CARD COUNT
WRITE COUNT TO USER
SET ROWS=223 COLS=4
SET IPR=0 IB=1
REWIND INPUT FILE
A
PROGID
CARDS
CHECK IOST
INCREMENT CARD COUNT
CHECK CARD COUNT
READ NEXT CARD
IOST .LT. 0
O
IOST .NE. 0
O
.LE. 2000
O
.GT. 2000
O
QUIT TO SAVE CARD COUNT
WRITE NOTE
ABORT
SAVE COUNT
WRITE NOTE
DECREMENT COUNT
QUIT TO SAVE CARD COUNT

HCDEF/VS2-A (PAGE 2 OF 4)

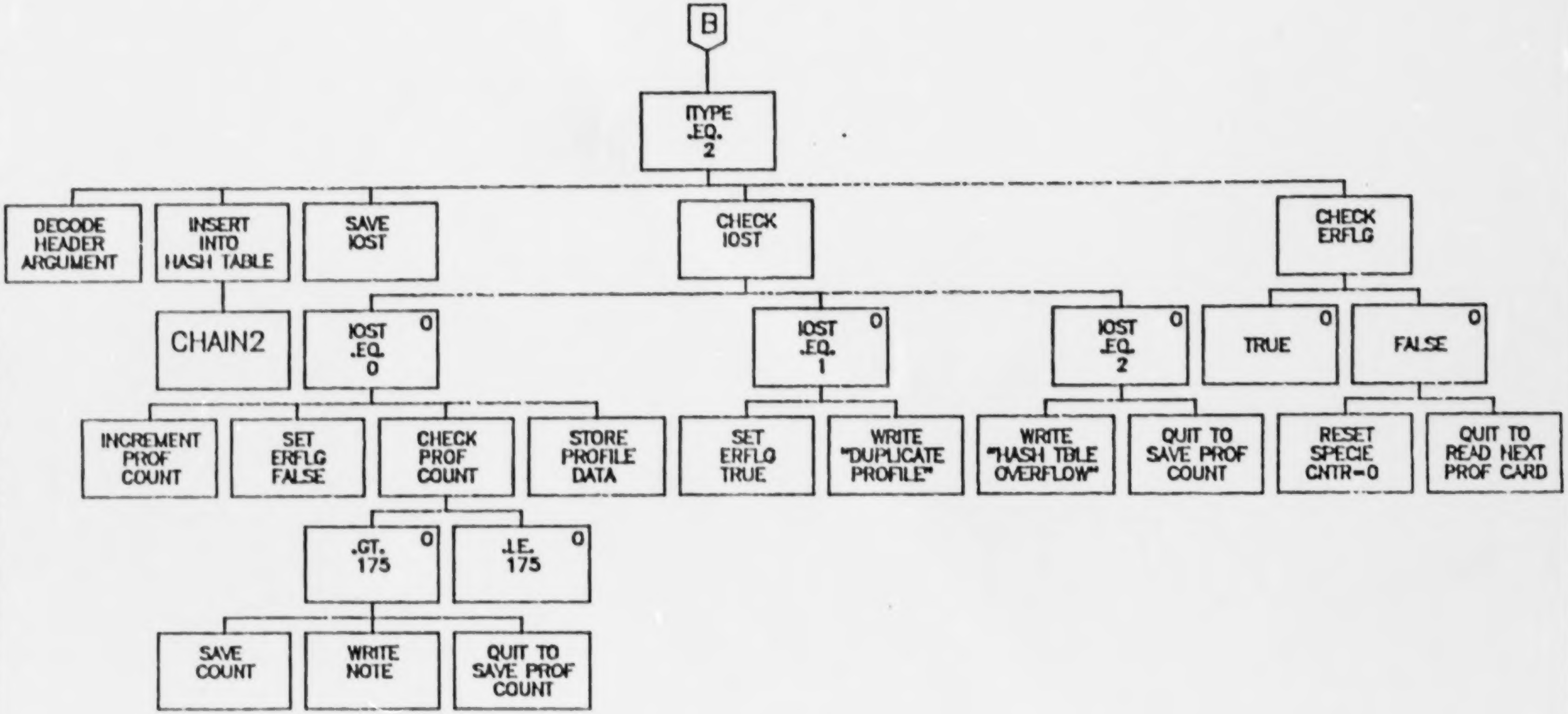
100184


A
READ 1ST PROFILE CARD
CHECK CARD IOST
IOST .LT. 0
O
IOST .NE. 0
O
QUIT TO SAVE PROF COUNT
WRITE NOTE WRITE CARD ABORT1
PROCESS CARDS
CARDS
CHECK CARD COUNT
.GT. 2000
O
.LE. 2000
O
QUIT TO SAVE PROF COUNT
READ CARD ITYPE
CHECK CARD ITYPE
ITYPE .EQ. 2
O
ITYPE .NE. 2
O
B
C
READ NEXT PROFILE CARD
SAVE PROFILE COUNT
WRITE FINAL REPORT
EXIT

HCDEF/VS2-A
100184/102721

HCDEF/VS2 (PAGE 3 OF 4)

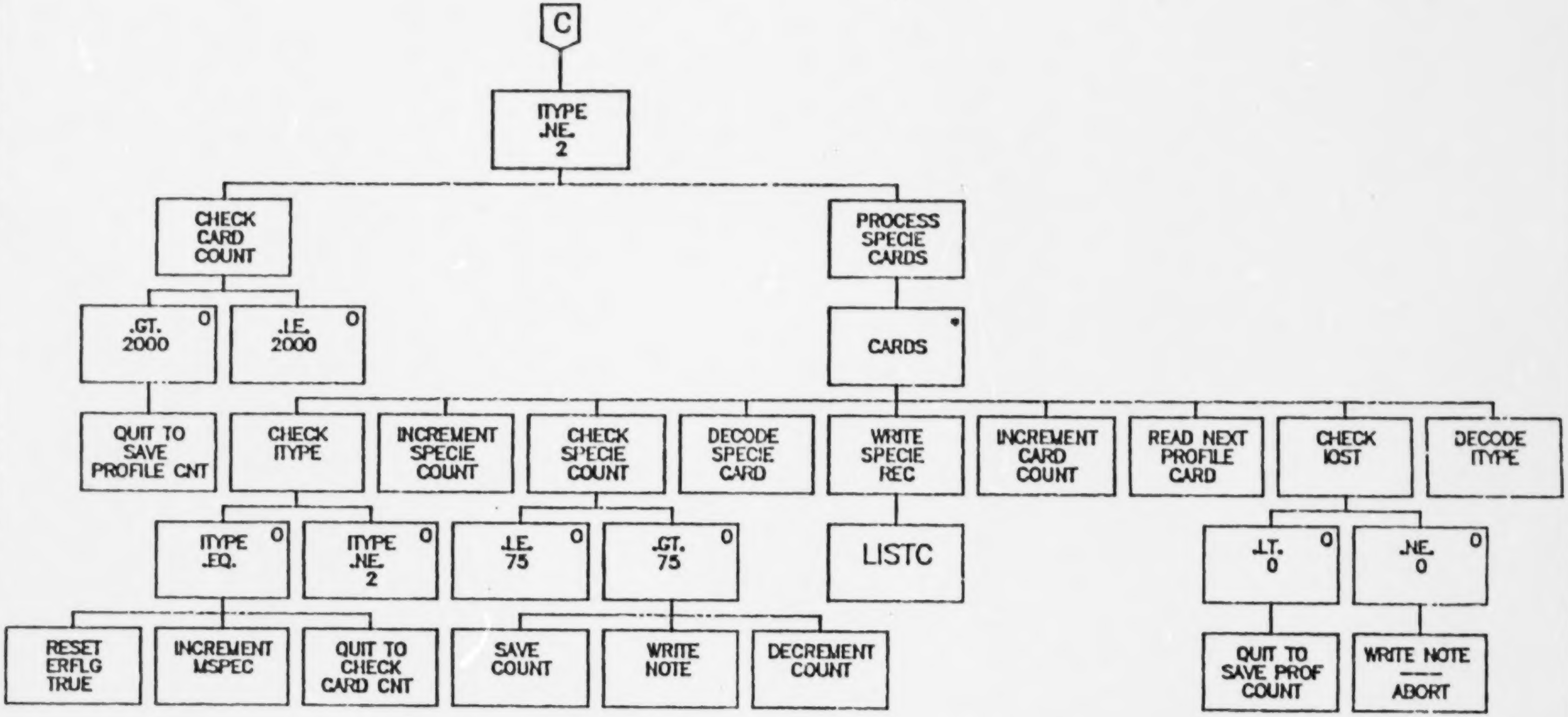
100184


B
ITYPE .EQ. 2
DECODE HEADER ARGUMENT
INSERT INTO HASH TABLE
SAVE IOST
CHECK IOST
CHECK ERFLG
CHAIN2
IOST .EQ. 0
0
IOST .EQ. 1
0
IOST .EQ. 2
0
TRUE
0
FALSE
0
INCREMENT PROF COUNT
SET ERFLG FALSE
CHECK PROF COUNT
STORE PROFILE DATA
SET ERFLG TRUE
WRITE "DUPLICATE PROFILE"
WRITE "HASH TBLE OVERFLOW"
QUIT TO SAVE PROF COUNT
RESET SPECIE CNTR=0
QUIT TO READ NEXT PROF CARD
.GT. 175
0
.LE. 175
0
SAVE COUNT
WRITE NOTE
QUIT TO SAVE PROF COUNT

HCDEF/VS2-B
100184/102721

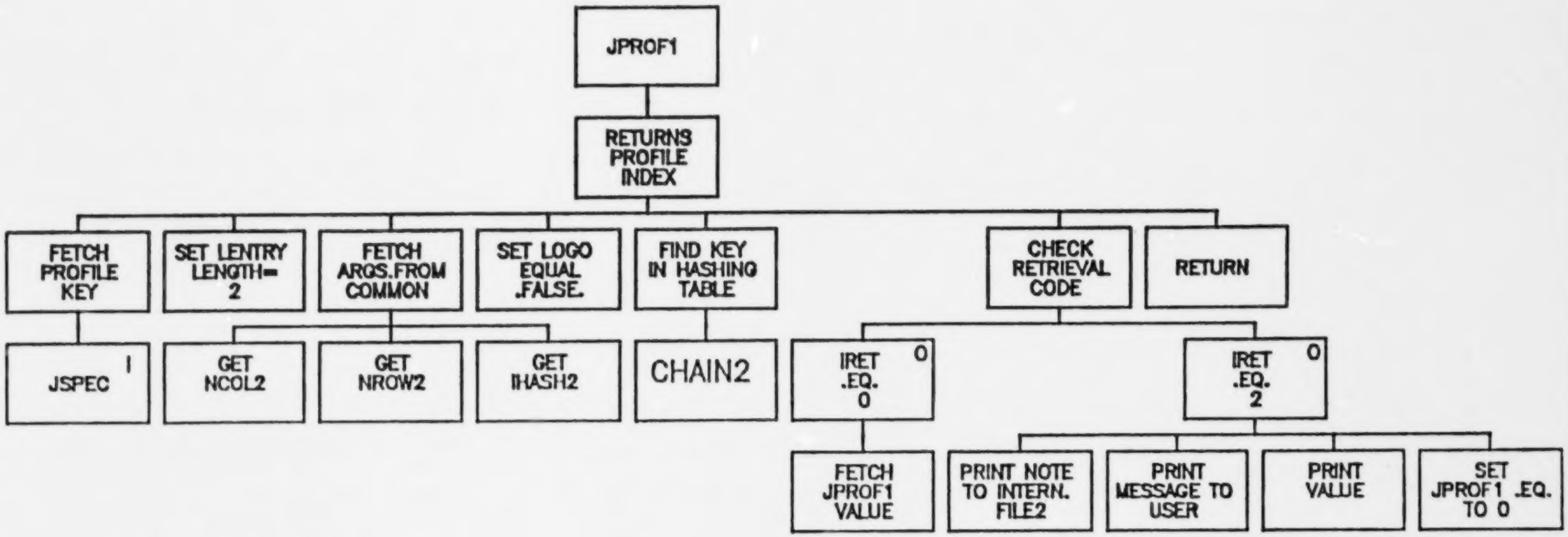
HCDEF/VS2 (PAGE 4 OF 4)

100184


C
ITYPE .NE. 2
CHECK CARD COUNT
PROCESS SPECIE CARDS
.GT. 2000 0
.LE. 2000 0
CARDS *
QUIT TO SAVE PROFILE CNT
CHECK ITYPE
INCREMENT SPECIE COUNT
CHECK SPECIE COUNT
DECODE SPECIE CARD
WRITE SPECIE REC
INCREMENT CARD COUNT
READ NEXT PROFILE CARD
CHECK IOST
DECODE ITYPE
ITYPE .EQ. 0
ITYPE .NE. 2 0
.LE. 75 0
.GT. 75 0
LISTC
.LT. 0 0
.NE. 0 0
RESET ERFLG TRUE
INCREMENT MSPEC
QUIT TO CHECK CARD CNT
SAVE COUNT
WRITE NOTE
DECREMENT COUNT
QUIT TO SAVE PROF COUNT
WRITE NOTE
ABORT

HCDEF/VS2-C
100184/102721

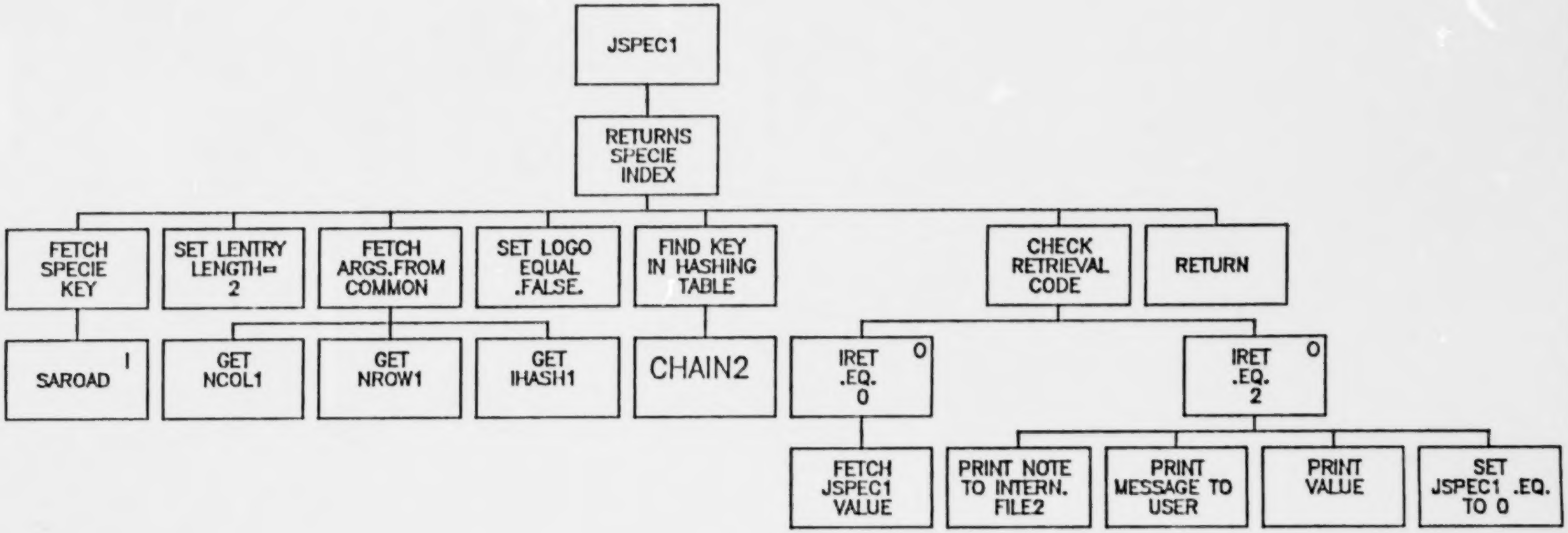
JPROF1 102582


JPROF1
RETURNS PROFILE INDEX
FETCH PROFILE KEY
SET LENTRY LENGTH= 2
FETCH ARGS.FROM COMMON
SET LOGO EQUAL .FALSE.
FIND KEY IN HASHING TABLE
CHECK RETRIEVAL CODE
RETURN
JSPEC I
GET NCOL2
GET NROW2
GET IHASH2
CHAIN2
IRET .EQ. 0 O
IRET .EQ. 2 O
FETCH JPROF1 VALUE
PRINT NOTE TO INTERN. FILE2
PRINT MESSAGE TO USER
PRINT VALUE
SET JPROF1 .EQ. TO 0

JPROF1
102582/132041

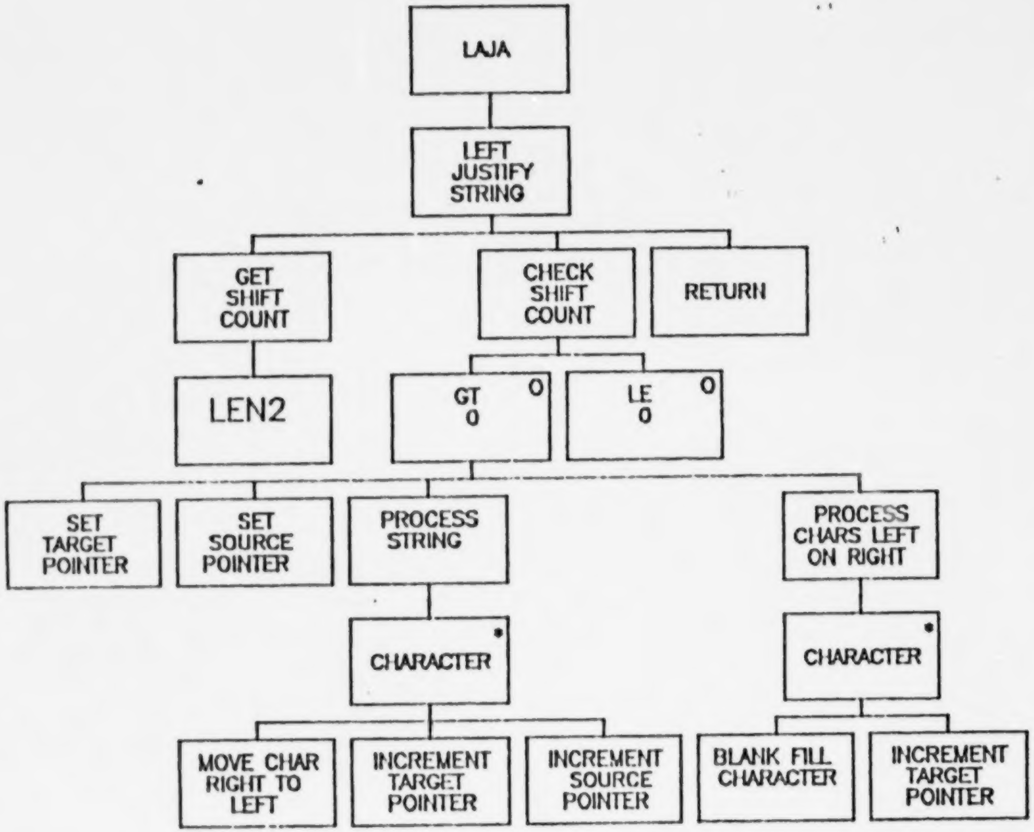
JSPEC1

102582

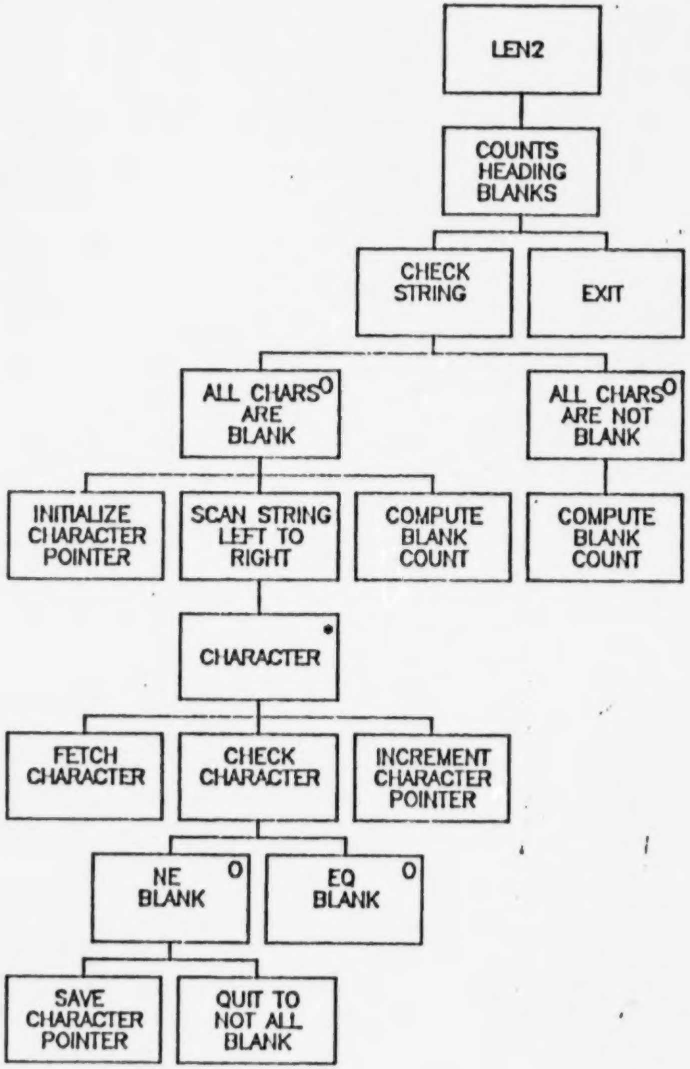

JSPEC1
RETURNS SPECIE INDEX
FETCH SPECIE KEY
SET LENTRY LENGTH= 2
FETCH ARGS.FROM COMMON
SET LOGO EQUAL .FALSE.
FIND KEY IN HASHING TABLE
CHECK RETRIEVAL CODE
RETURN
SAROAD
I
GET NCOL1
GET NROW1
GET IHASH1
CHAIN2
IRET .EQ. 0
O
IRET .EQ. 2
O
FETCH JSPEC1 VALUE
PRINT NOTE TO INTERN. FILE2
PRINT MESSAGE TO USER
PRINT VALUE
SET JSPEC1 .EQ. TO 0

JSPEC1
102582/132041

LAJA


LAJA
LEFT JUSTIFY STRING
GET SHIFT COUNT
CHECK SHIFT COUNT
RETURN
LEN2
GT 0
O
LE 0
O
SET TARGET POINTER
SET SOURCE POINTER
PROCESS STRING
PROCESS CHARS LEFT ON RIGHT
CHARACTER
*
CHARACTER
*
MOVE CHAR RIGHT TO LEFT
INCREMENT TARGET POINTER
INCREMENT SOURCE POINTER
BLANK FILL CHARACTER
INCREMENT TARGET POINTER

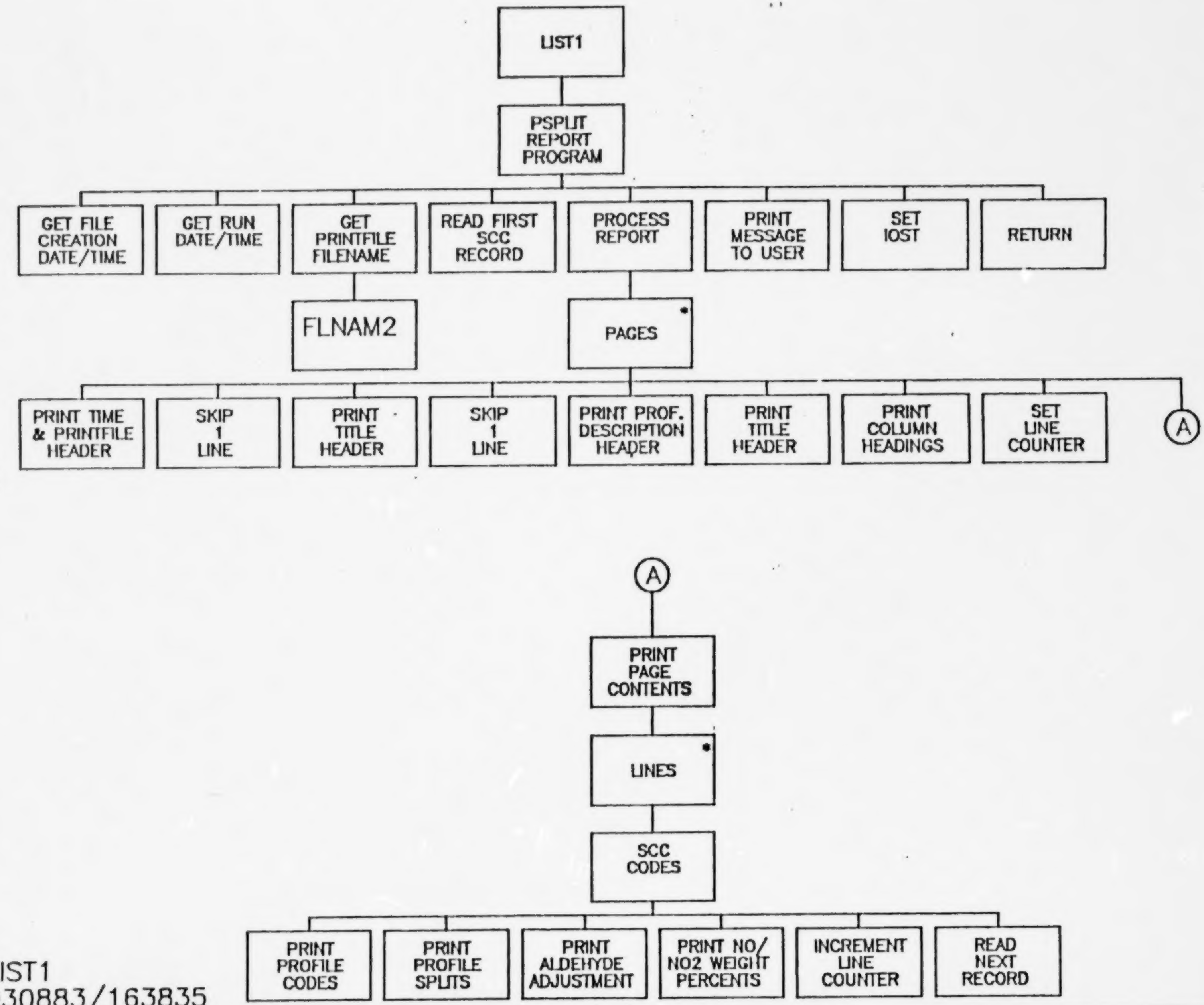
LEN2


LEN2
COUNTS HEADING BLANKS
CHECK STRING
EXIT
ALL CHARS ARE BLANK O
ALL CHARS ARE NOT BLANK O
INITIALIZE CHARACTER POINTER
SCAN STRING LEFT TO RIGHT
COMPUTE BLANK COUNT
COMPUTE BLANK COUNT
CHARACTER *
FETCH CHARACTER
CHECK CHARACTER
INCREMENT CHARACTER POINTER
NE BLANK O
EQ BLANK O
SAVE CHARACTER POINTER
QUIT TO NOT ALL BLANK

LEN2
020283/100631

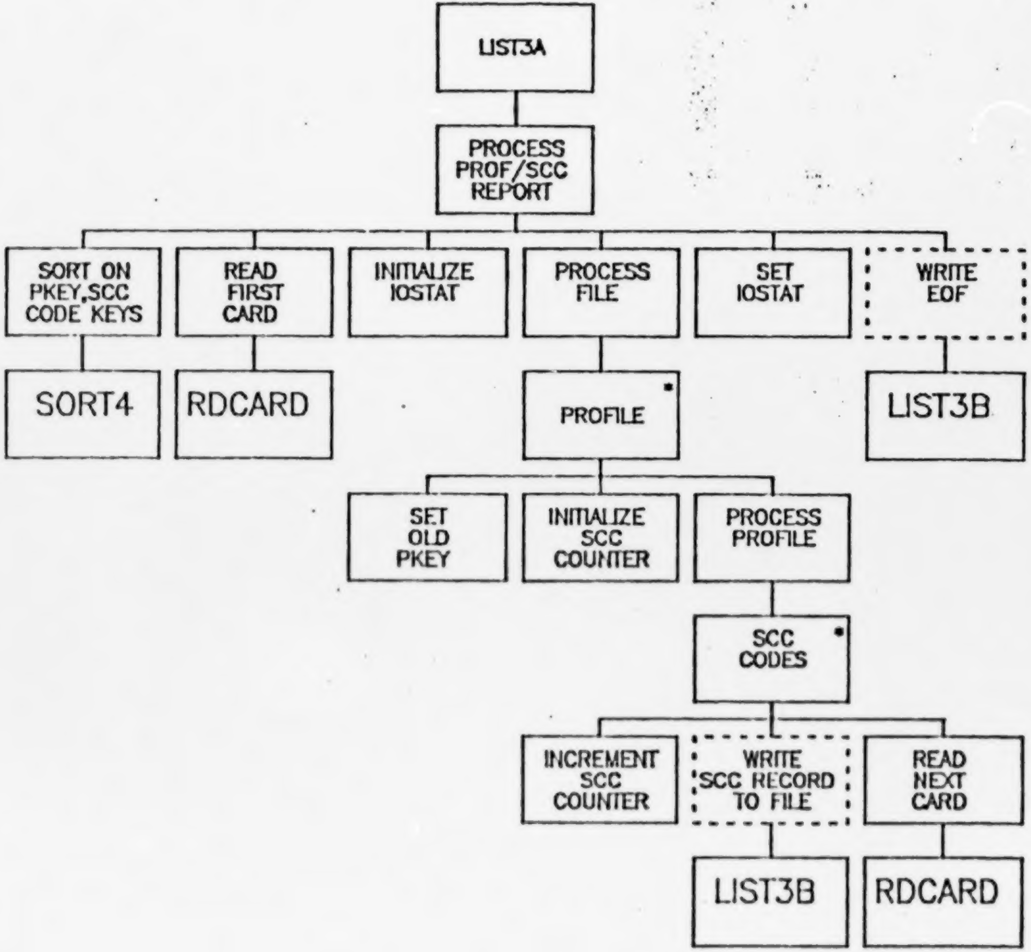
LIST1

030883


LIST1
PSPLIT REPORT PROGRAM
GET FILE CREATION DATE/TIME
GET RUN DATE/TIME
GET PRINTFILE FILENAME
READ FIRST SCC RECORD
PROCESS REPORT
PRINT MESSAGE TO USER
SET IOST
RETURN
FLNAM2
PAGES
PRINT TIME & PRINTFILE HEADER
SKIP 1 LINE
PRINT TITLE HEADER
SKIP 1 LINE
PRINT PROF. DESCRIPTION HEADER
PRINT TITLE HEADER
PRINT COLUMN HEADINGS
SET LINE COUNTER
A
A
PRINT PAGE CONTENTS
LINES
SCC CODES
PRINT PROFILE CODES
PRINT PROFILE SPLITS
PRINT ALDEHYDE ADJUSTMENT
PRINT NO/ NO2 WEIGHT PERCENTS
INCREMENT LINE COUNTER
READ NEXT RECORD

LIST1
030883/163835

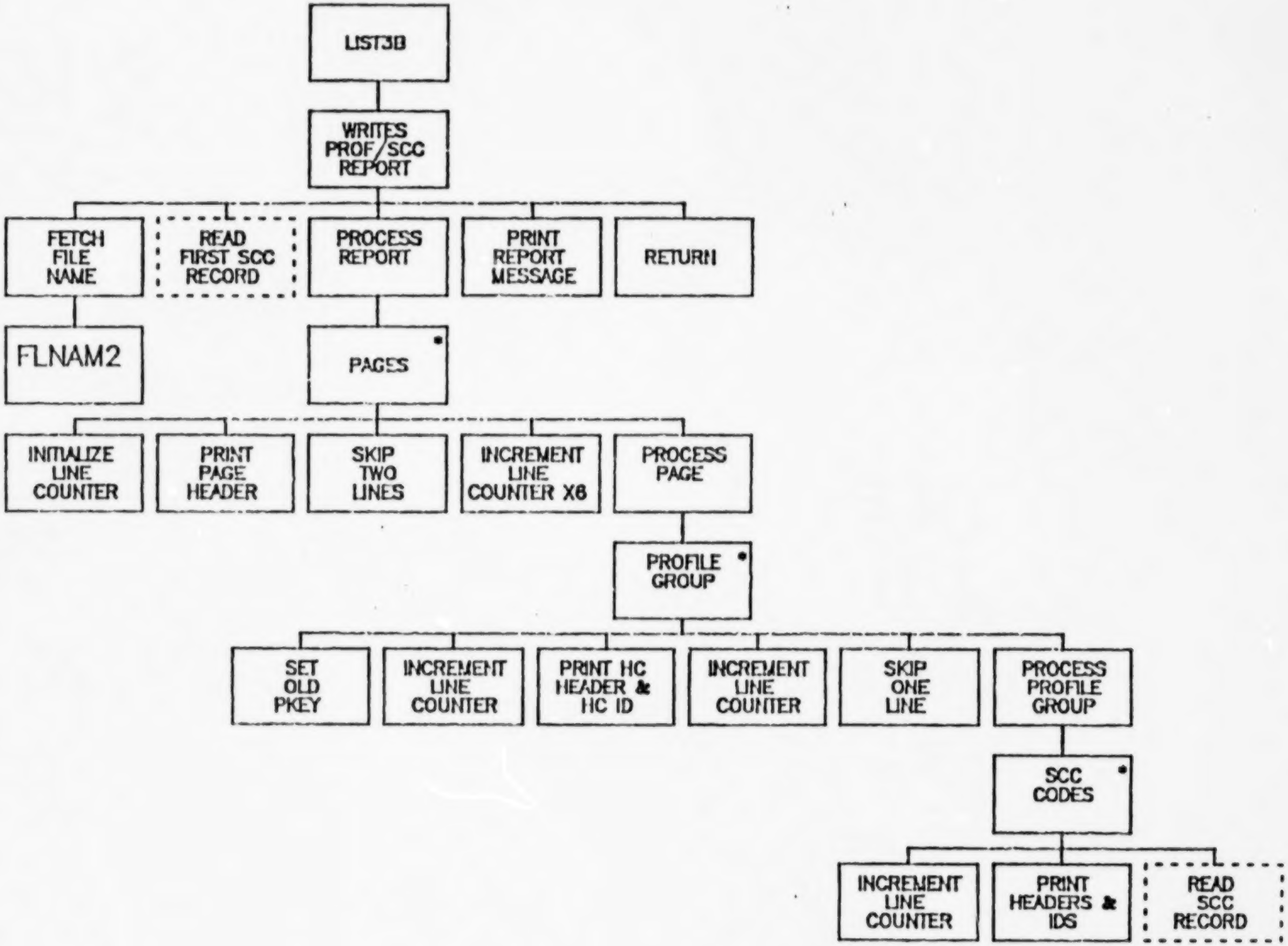
LIST3A 011283


LIST3A
PROCESS PROF/SCC REPORT
SORT ON PKEY,SCC CODE KEYS
READ FIRST CARD
INITIALIZE IOSTAT
PROCESS FILE
SET IOSTAT
WRITE EOF
SORT4
RDCARD
PROFILE
LIST3B
SET OLD PKEY
INITIALIZE SCC COUNTER
PROCESS PROFILE
SCC CODES
INCREMENT SCC COUNTER
WRITE SCC RECORD TO FILE
READ NEXT CARD
LIST3B
RDCARD

LIST3A
011183/152236

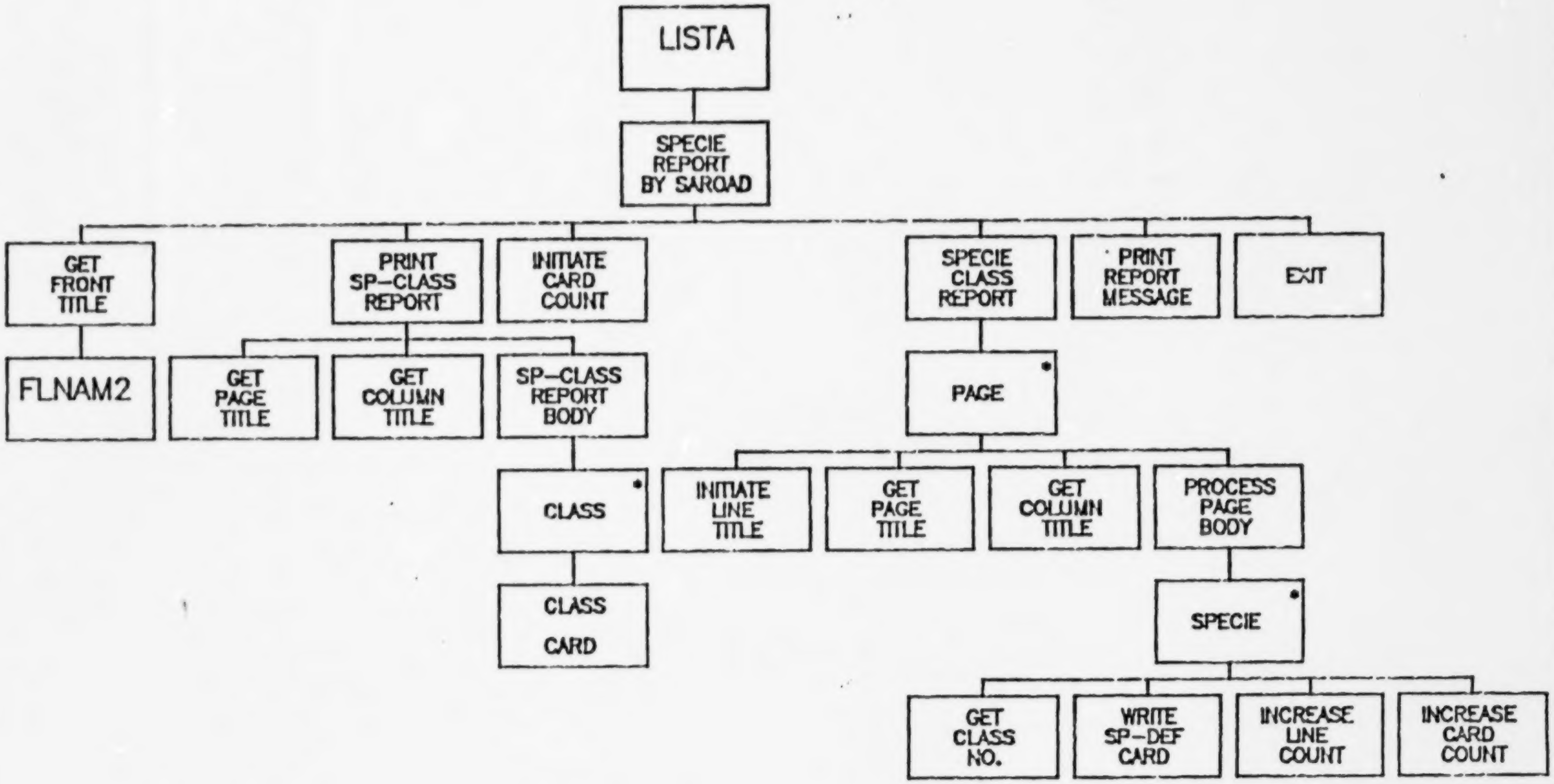
LIST3B

031183


LIST3B
WRITES PROF/SCC REPORT
FETCH FILE NAME
READ FIRST SCC RECORD
PROCESS REPORT
PRINT REPORT MESSAGE
RETURN
FLNAM2
PAGES
INITIALIZE LINE COUNTER
PRINT PAGE HEADER
SKIP TWO LINES
INCREMENT LINE COUNTER X6
PROCESS PAGE
PROFILE GROUP
SET OLD PKEY
INCREMENT LINE COUNTER
PRINT HC HEADER & HC ID
INCREMENT LINE COUNTER
SKIP ONE LINE
PROCESS PROFILE GROUP
SCC CODES
INCREMENT LINE COUNTER
PRINT HEADERS & IDS
READ SCC RECORD

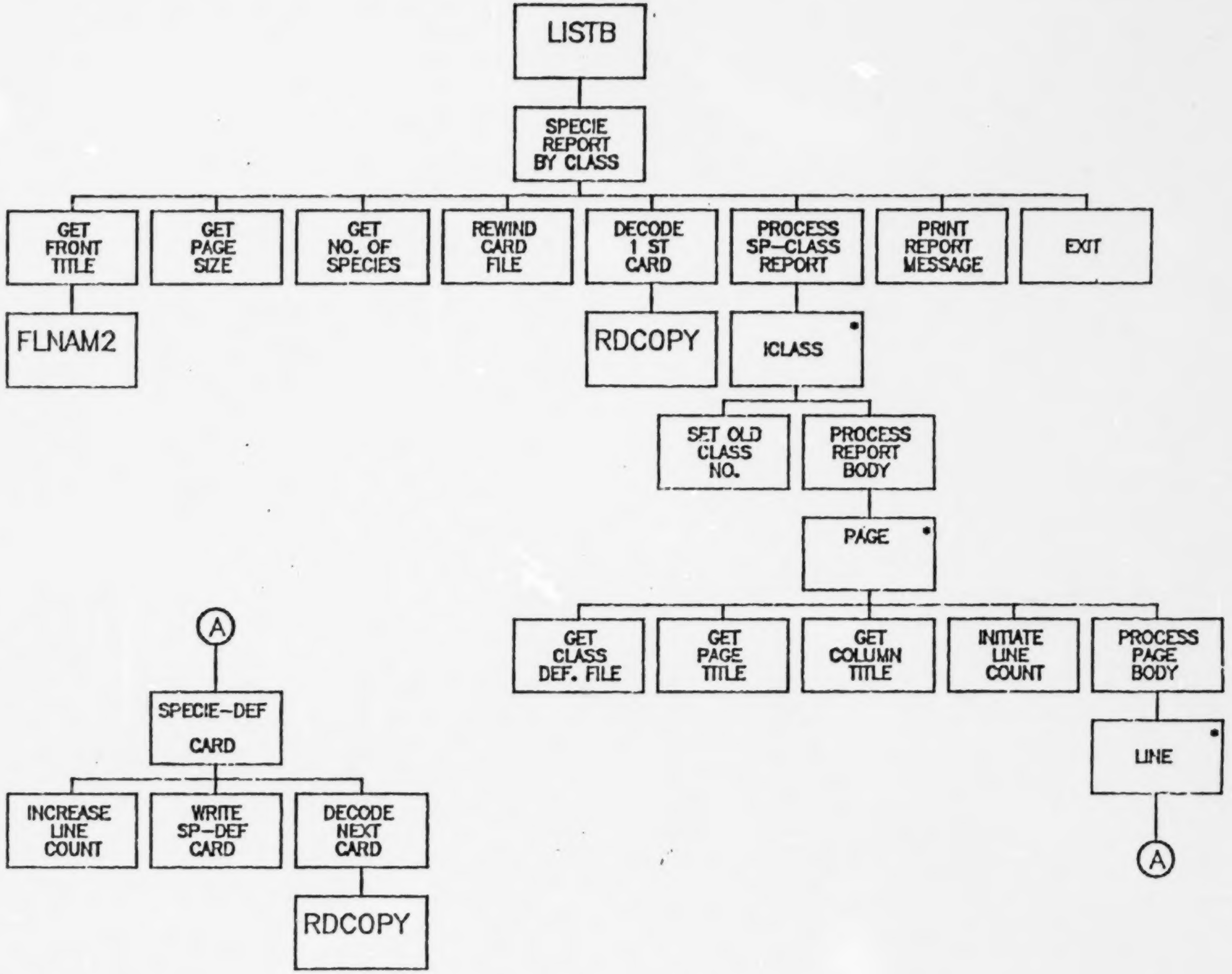
LIST3B
031183/130953

LISTA


LISTA
SPECIE REPORT BY SAROAD
GET FRONT TITLE
FLNAM2
PRINT SP-CLASS REPORT
GET PAGE TITLE
GET COLUMN TITLE
SP-CLASS REPORT BODY
CLASS
CLASS CARD
INITIATE CARD COUNT
SPECIE CLASS REPORT
PAGE
INITIATE LINE TITLE
GET PAGE TITLE
GET COLUMN TITLE
PROCESS PAGE BODY
SPECIE
GET CLASS NO.
WRITE SP-DEF CARD
INCREASE LINE COUNT
INCREASE CARD COUNT
PRINT REPORT MESSAGE
EXIT

LISTA
031183/145552

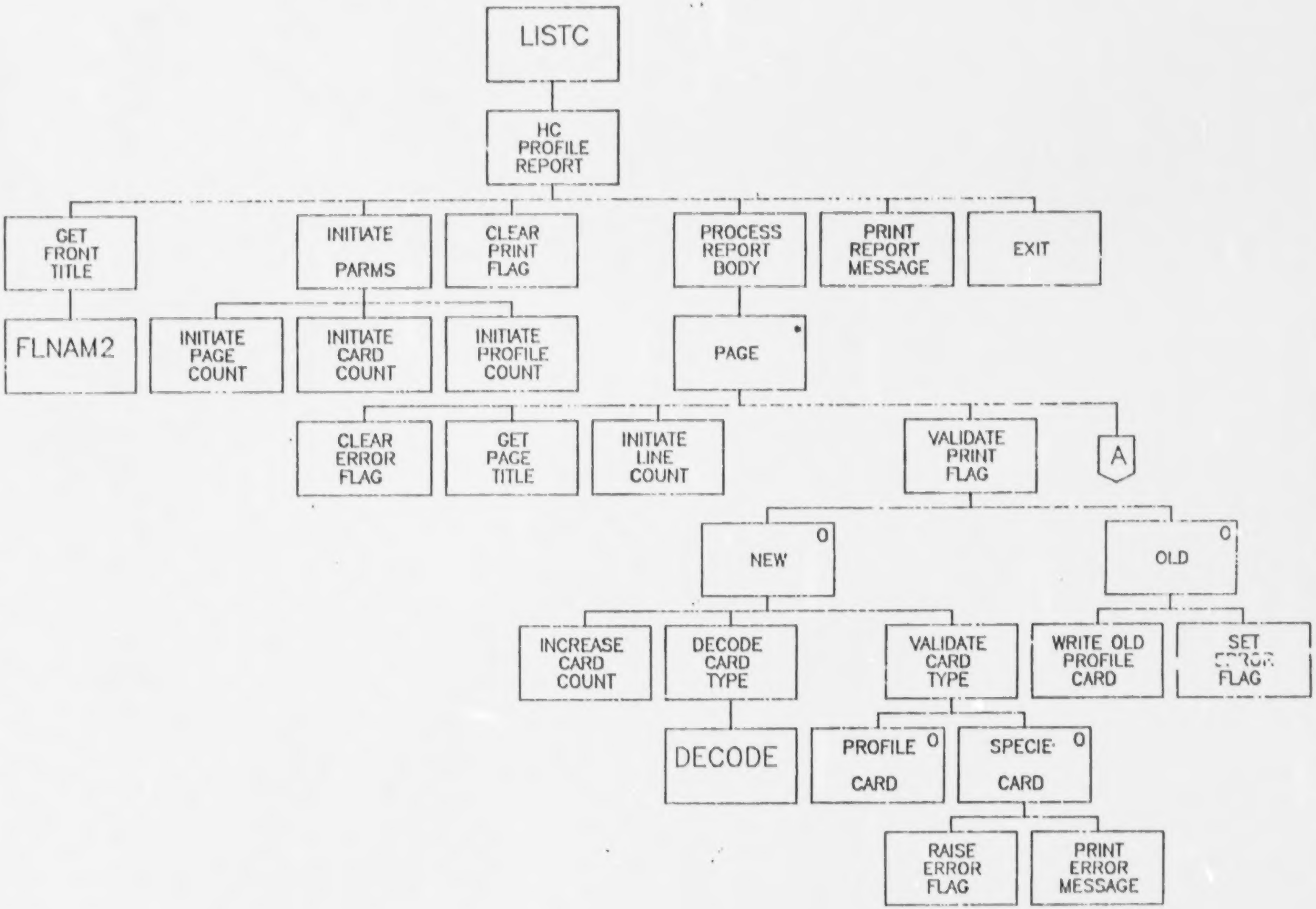
LISTB 031183


LISTB
SPECIE REPORT BY CLASS
GET FRONT TITLE
GET PAGE SIZE
GET NO. OF SPECIES
REWIND CARD FILE
DECODE 1 ST CARD
PROCESS SP-CLASS REPORT
PRINT REPORT MESSAGE
EXIT
FLNAM2
RDCOPY
ICLASS
SET OLD CLASS NO.
PROCESS REPORT BODY
PAGE
GET CLASS DEF. FILE
GET PAGE TITLE
GET COLUMN TITLE
INITIATE LINE COUNT
PROCESS PAGE BODY
LINE
A
A
SPECIE-DEF CARD
INCREASE LINE COUNT
WRITE SP-DEF CARD
DECODE NEXT CARD
RDCOPY

LISTB
031183/145552

LISTC (PAGE 1 OF 3)

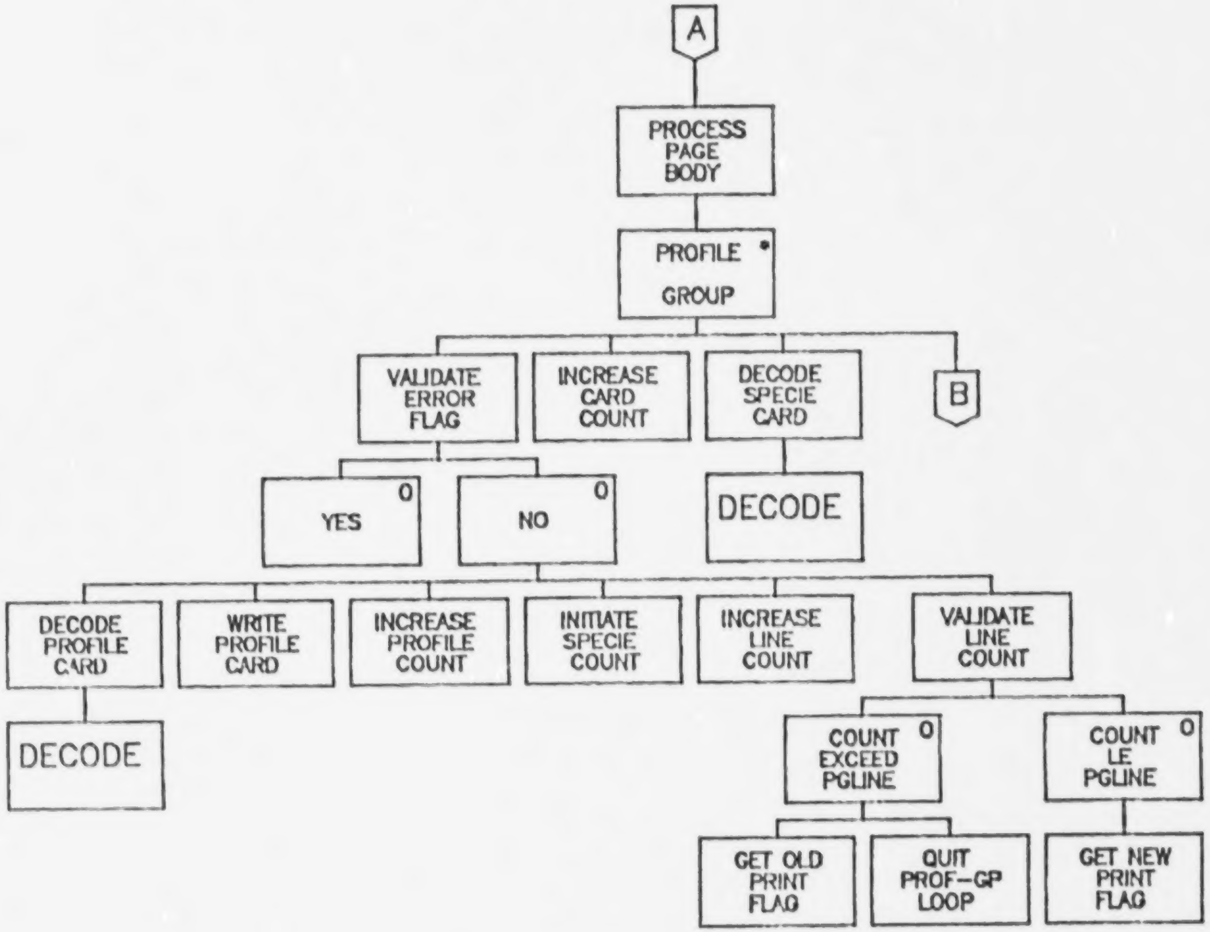
031483


LISTC
HC PROFILE REPORT
GET FRONT TITLE
INITIATE PARMS
CLEAR PRINT FLAG
PROCESS REPORT BODY
PRINT REPORT MESSAGE
EXIT
FLNAM2
INITIATE PAGE COUNT
INITIATE CARD COUNT
INITIATE PROFILE COUNT
PAGE
CLEAR ERROR FLAG
GET PAGE TITLE
INITIATE LINE COUNT
VALIDATE PRINT FLAG
A
NEW O
OLD O
INCREASE CARD COUNT
DECODE CARD TYPE
VALIDATE CARD TYPE
WRITE OLD PROFILE CARD
SET ERROR FLAG
DECODE
PROFILE CARD O
SPECIE CARD O
RAISE ERROR FLAG
PRINT ERROR MESSAGE

LISTC
031183/132945

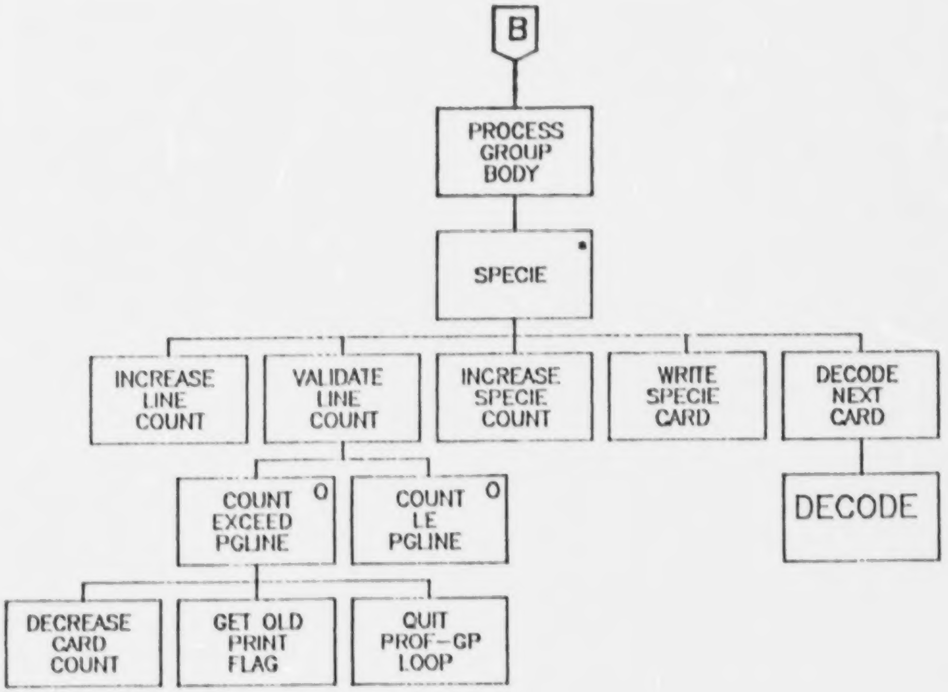
LISTC (PAGE 2 OF 3)

031183


A
PROCESS PAGE BODY
PROFILE * GROUP
VALIDATE ERROR FLAG
INCREASE CARD COUNT
DECODE SPECIE CARD
B
YES 0
NO 0
DECODE
DECODE PROFILE CARD
WRITE PROFILE CARD
INCREASE PROFILE COUNT
INITIATE SPECIE COUNT
INCREASE LINE COUNT
VALIDATE LINE COUNT
DECODE
COUNT EXCEED PGLINE 0
COUNT LE PGLINE 0
GET OLD PRINT FLAG
QUIT PROF-GP LOOP
GET NEW PRINT FLAG

LISTC-A
031183/132945

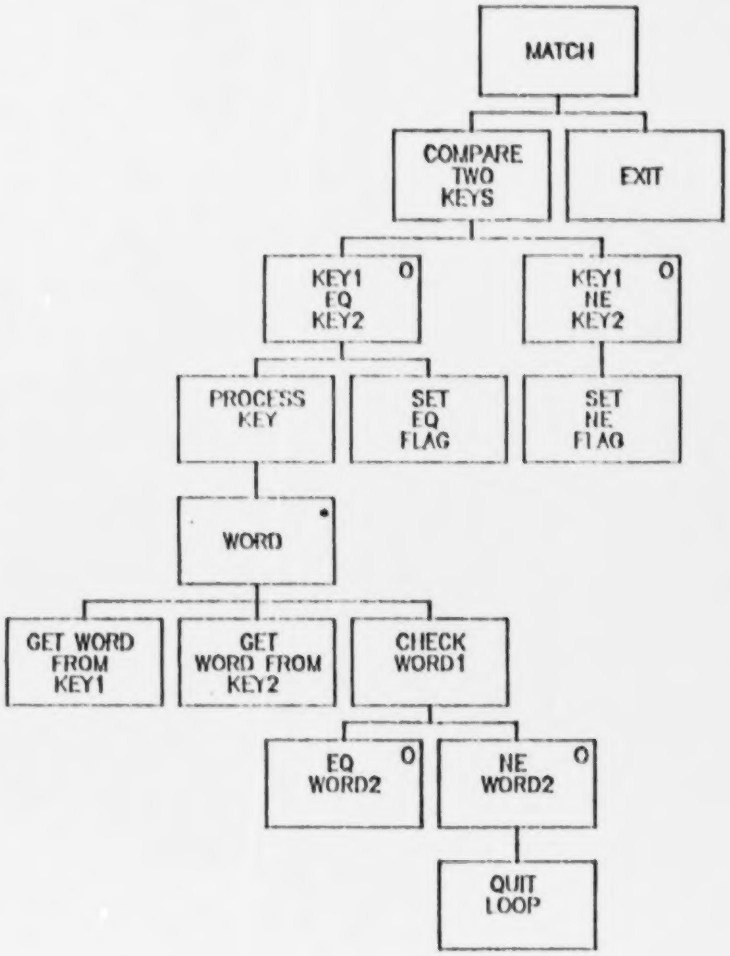
LISTC (PAGE 3 OF 3)


B
PROCESS GROUP BODY
SPECIE
INCREASE LINE COUNT
VALIDATE LINE COUNT
INCREASE SPECIE COUNT
WRITE SPECIE CARD
DECODE NEXT CARD
COUNT EXCEED PGLINE
O
COUNT LE PGLINE
O
DECODE
DECREASE CARD COUNT
GET OLD PRINT FLAG
QUIT PROF-GP LOOP

LISTC-B
031183/132945

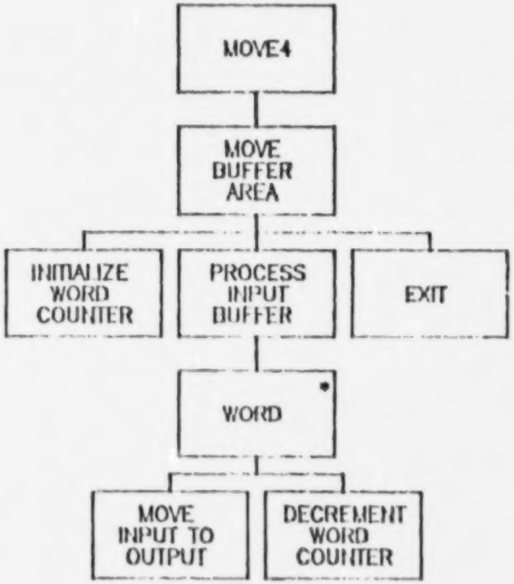
MATCH

011283


MATCH
COMPARE TWO KEYS
EXIT
KEY1 EQ KEY2 O
KEY1 NE KEY2 O
PROCESS KEY
SET EQ FLAG
SET NE FLAG
WORD *
GET WORD FROM KEY1
GET WORD FROM KEY2
CHECK WORD1
EQ WORD2 O
NE WORD2 O
QUIT LOOP

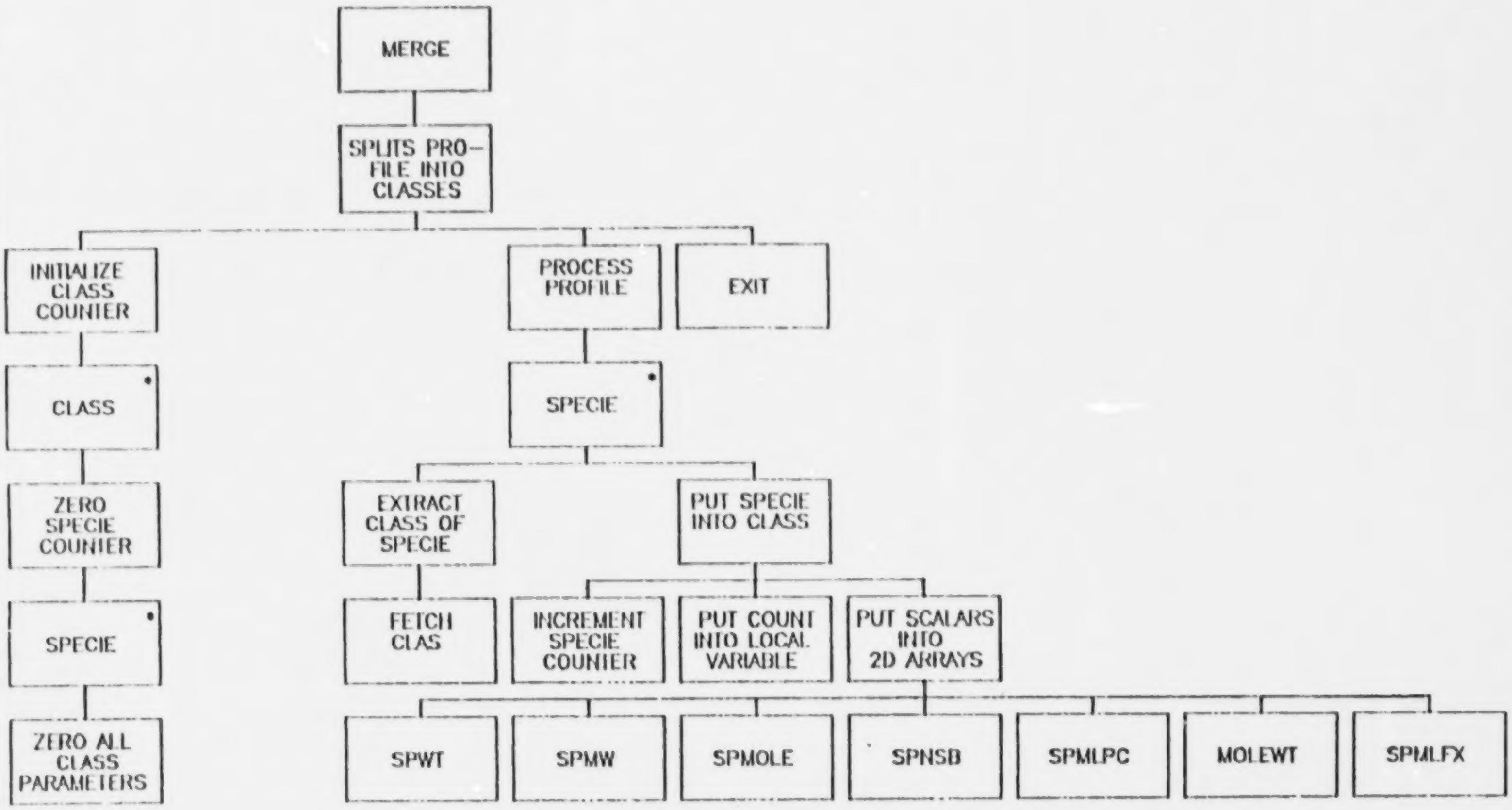
MATCH
011083/165956

MOVE4 011283


MOVE4
MOVE BUFFER AREA
INITIALIZE WORD COUNTER
PROCESS INPUT BUFFER
EXIT
WORD
*
MOVE INPUT TO OUTPUT
DECREMENT WORD COUNTER

MOVE4
080282/080657

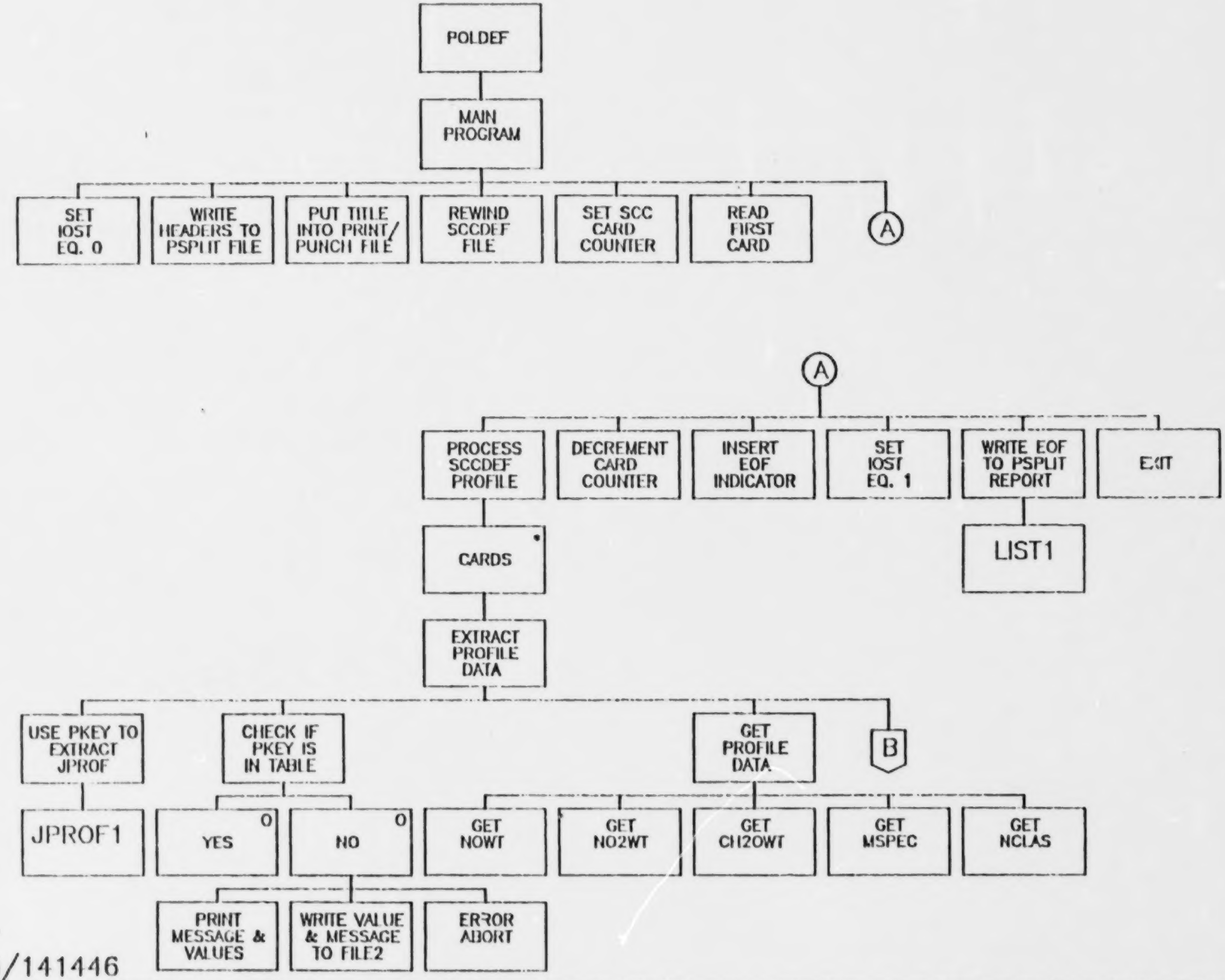
MERGE 031583


MERGE
SPLITS PRO- FILE INTO CLASSES
INITIALIZE CLASS COUNTER
CLASS
ZERO SPECIE COUNTER
SPECIE
ZERO ALL CLASS PARAMETERS
PROCESS PROFILE
EXIT
SPECIE
EXTRACT CLASS OF SPECIE
PUT SPECIE INTO CLASS
FETCH CLAS
INCREMENT SPECIE COUNTER
PUT COUNT INTO LOCAL VARIABLE
PUT SCALARS INTO 2D ARRAYS
SPWT
SPMW
SPMOLE
SPNSB
SPMLPC
MOLEWT
SPMLFX

MERGE
031583/095807

POLDEF (PAGE 1 OF 2)

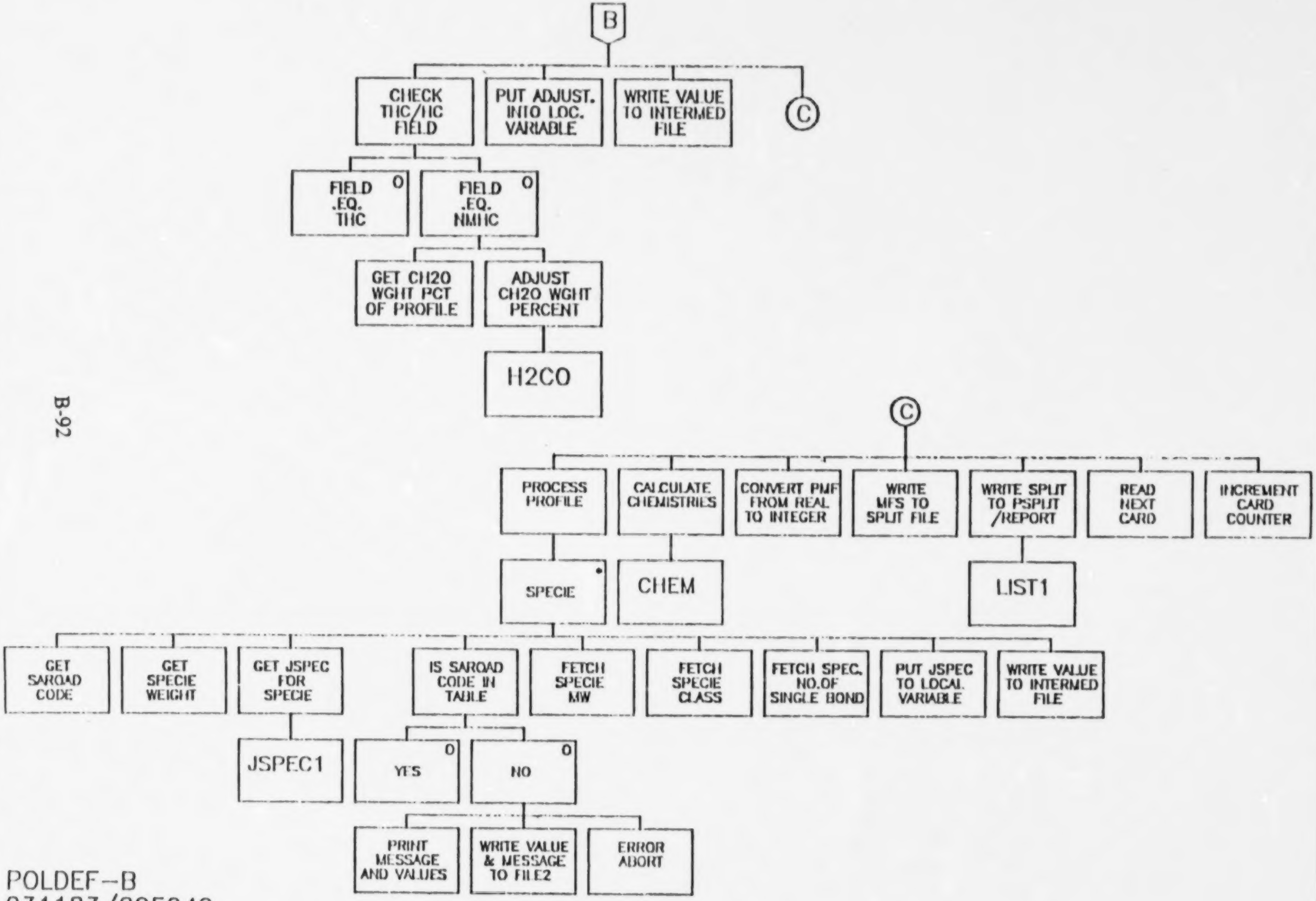
031583


POLDEF
MAIN PROGRAM
SET IOST EQ. 0
WRITE HEADERS TO PSPLIT FILE
PUT TITLE INTO PRINT/ PUNCH FILE
REWIND SCCDEF FILE
SET SCC CARD COUNTER
READ FIRST CARD
A
A
PROCESS SCCDEF PROFILE
DECREMENT CARD COUNTER
INSERT EOF INDICATOR
SET IOST EQ. 1
WRITE EOF TO PSPLIT REPORT
EXIT
LIST1
CARDS
EXTRACT PROFILE DATA
USE PKEY TO EXTRACT JPROF
CHECK IF PKEY IS IN TABLE
GET PROFILE DATA
B
JPROF1
YES
0
NO
0
GET NOWT
GET NO2WT
GET CH2OWT
GET MSPEC
GET NCLAS
PRINT MESSAGE & VALUES
WRITE VALUE & MESSAGE TO FILE2
ERROR ABORT

POLDEF
0.31183/141446

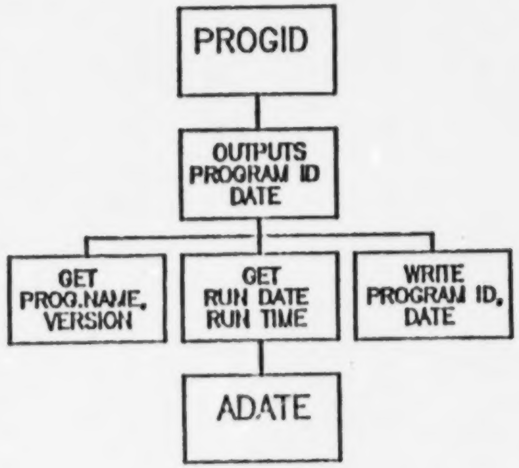
POLDEF (PAGE 2 OF 2)

031583


B
CHECK THC/HC FIELD
PUT ADJUST. INTO LOC. VARIABLE
WRITE VALUE TO INTERMED FILE
C
FIELD .EQ. THC
O
FIELD .EQ. NMHC
O
GET CH2O WGHT PCT OF PROFILE
ADJUST CH2O WGHT PERCENT
H2CO
C
PROCESS PROFILE
CALCULATE CHEMISTRIES
CONVERT PMF FROM REAL TO INTEGER
WRITE MFS TO SPLIT FILE
WRITE SPLIT TO PSPLIT /REPORT
READ NEXT CARD
INCREMENT CARD COUNTER
SPECIE
CHEM
LIST1
GET SAROAD CODE
GET SPECIE WEIGHT
GET JSPEC FOR SPECIE
IS SAROAD CODE IN TABLE
FETCH SPECIE MW
FETCH SPECIE CLASS
FETCH SPEC. NO.OF SINGLE BOND
PUT JSPEC TO LOCAL VARIABLE
WRITE VALUE TO INTERMED FILE
JSPEC1
YES
O
NO
O
PRINT MESSAGE AND VALUES
WRITE VALUE & MESSAGE TO FILE2
ERROR ABORT

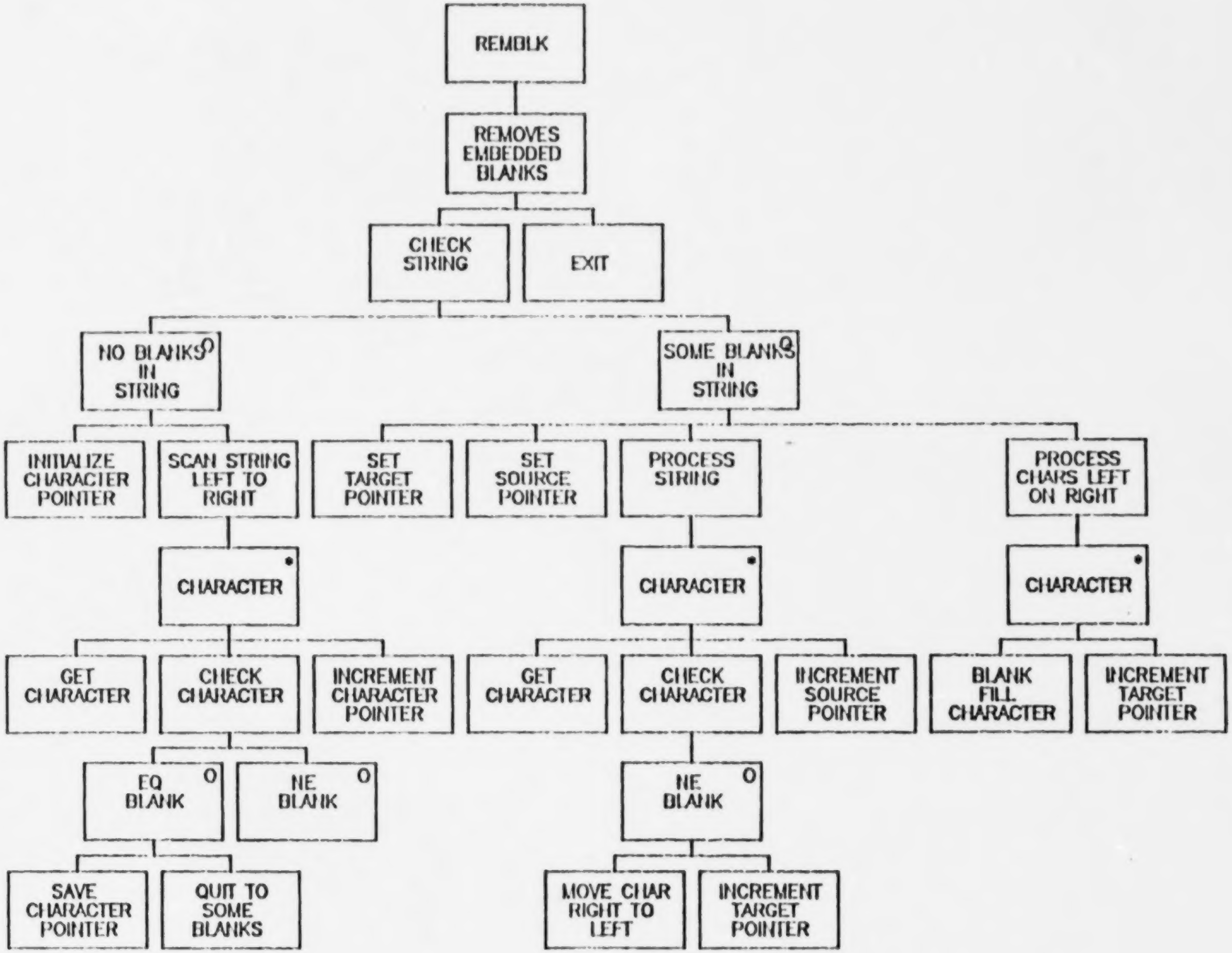
POLDEF-B
031183/095949

PROGID

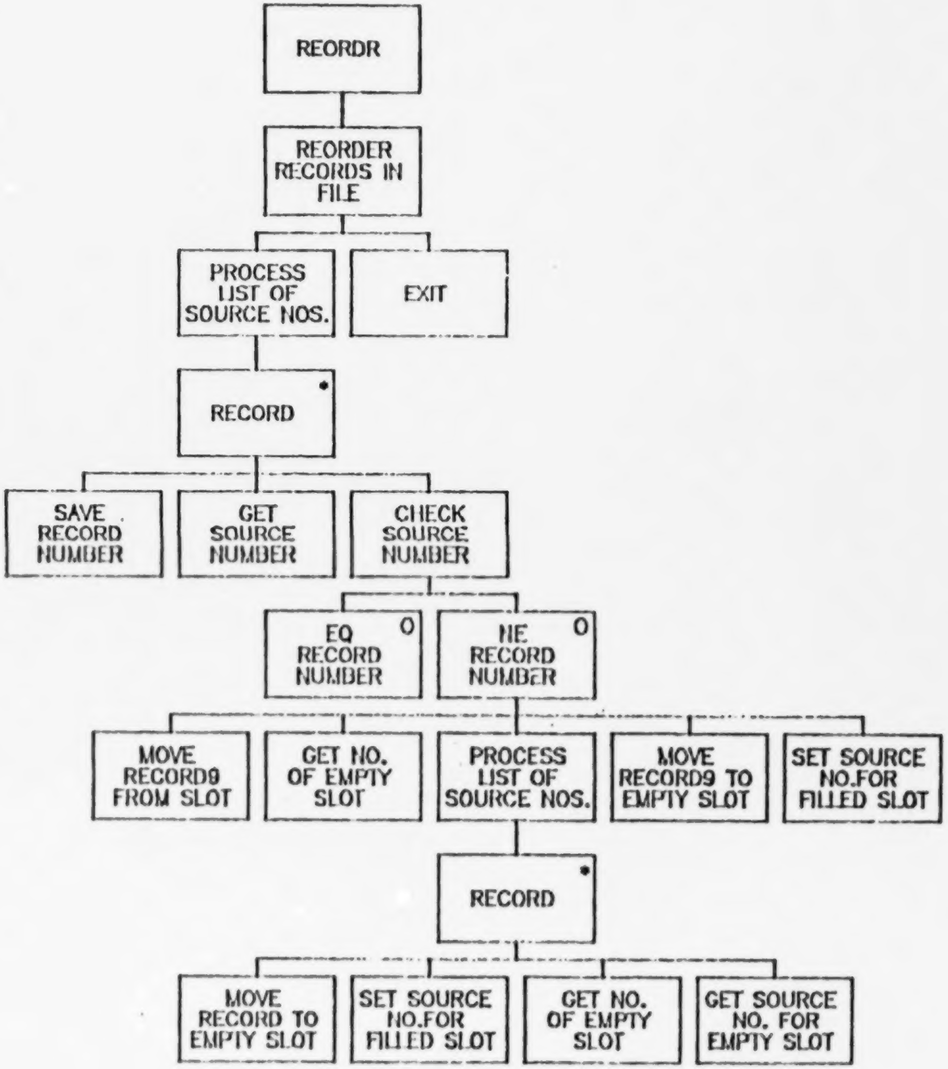

PROGID
OUTPUTS PROGRAM ID DATE
GET PROG.NAME, VERSION
GET RUN DATE RUN TIME
WRITE PROGRAM ID, DATE
ADATE

PROGID
122381/122743

REMBLK


REMBLK
REMOVES EMBEDDED BLANKS
CHECK STRING
EXIT
NO BLANKS IN STRING O
SOME BLANKS IN STRING O
INITIALIZE CHARACTER POINTER
SCAN STRING LEFT TO RIGHT
SET TARGET POINTER
SET SOURCE POINTER
PROCESS STRING
PROCESS CHARS LEFT ON RIGHT
CHARACTER •
CHARACTER •
CHARACTER •
GET CHARACTER
CHECK CHARACTER
INCREMENT CHARACTER POINTER
GET CHARACTER
CHECK CHARACTER
INCREMENT SOURCE POINTER
BLANK FILL CHARACTER
INCREMENT TARGET POINTER
EQ BLANK O
NE BLANK O
NE BLANK O
SAVE CHARACTER POINTER
QUIT TO SOME BLANKS
MOVE CHAR RIGHT TO LEFT
INCREMENT TARGET POINTER

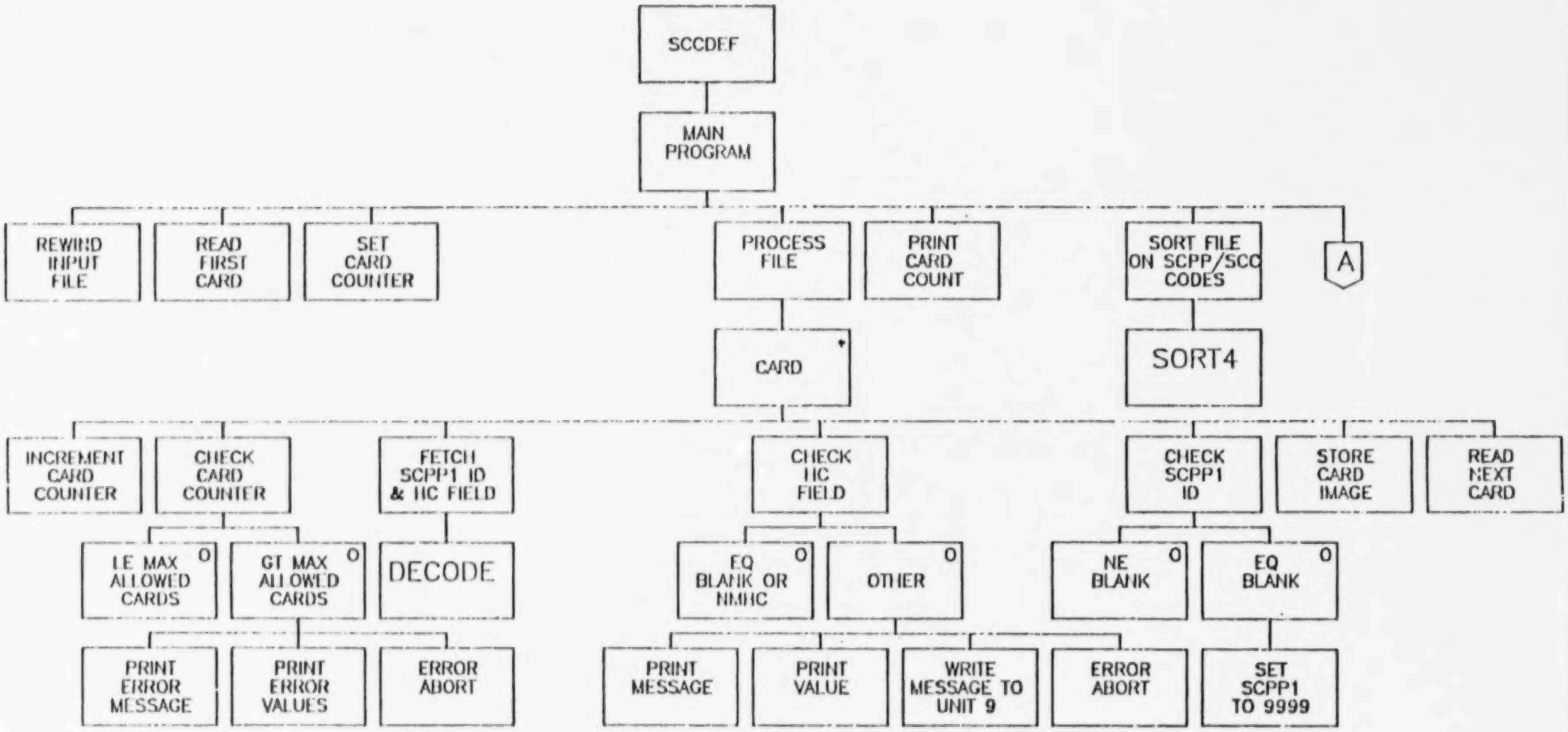
REORDR 011283


REORDR
REORDER RECORDS IN FILE
PROCESS LIST OF SOURCE NOS.
EXIT
RECORD *
SAVE RECORD NUMBER
GET SOURCE NUMBER
CHECK SOURCE NUMBER
EQ RECORD NUMBER O
NE RECORD NUMBER O
MOVE RECORD9 FROM SLOT
GET NO. OF EMPTY SLOT
PROCESS LIST OF SOURCE NOS.
MOVE RECORD9 TO EMPTY SLOT
SET SOURCE NO.FOR FILLED SLOT
RECORD *
MOVE RECORD TO EMPTY SLOT
SET SOURCE NO.FOR FILLED SLOT
GET NO. OF EMPTY SLOT
GET SOURCE NO. FOR EMPTY SLOT

REORDR
080282/080657

SCCDEF (PAGE 1 OF 2)

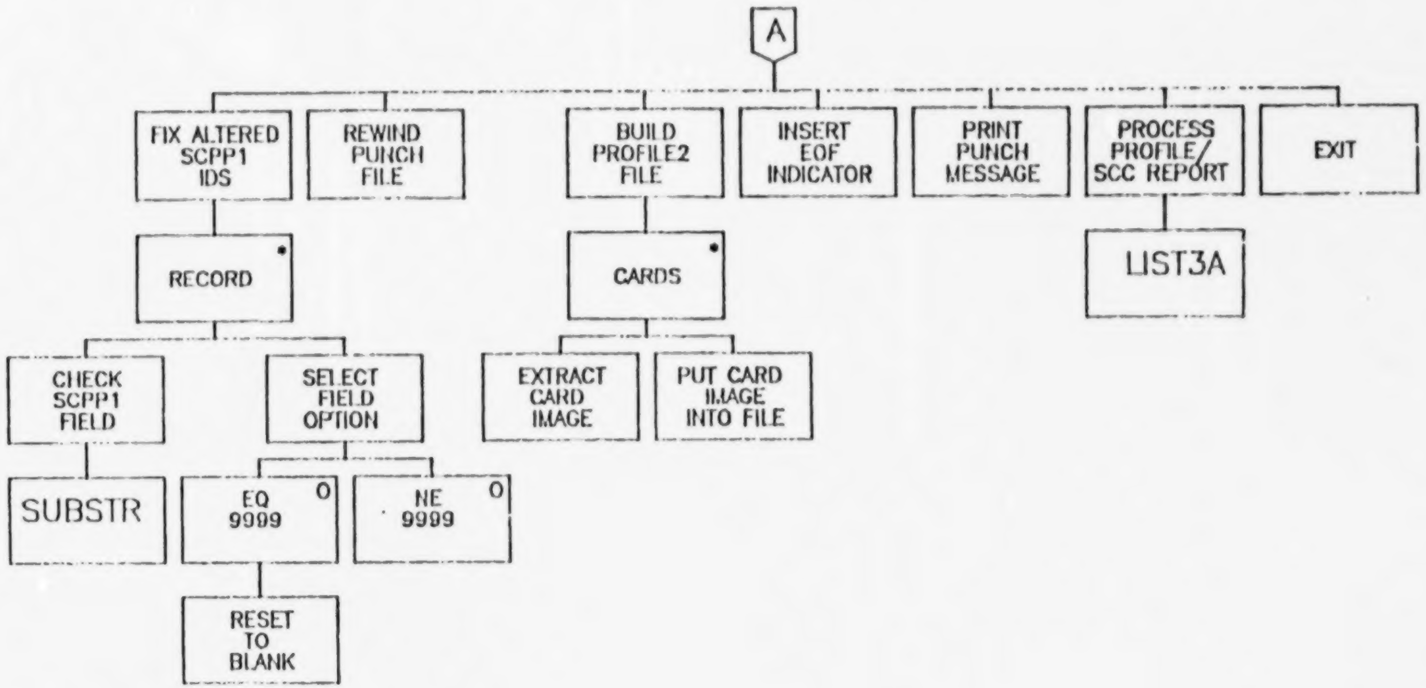
031483


SCCDEF
MAIN PROGRAM
REWIND INPUT FILE
READ FIRST CARD
SET CARD COUNTER
PROCESS FILE
PRINT CARD COUNT
SORT FILE ON SCPP/SCC CODES
A
CARD
SORT4
INCREMENT CARD COUNTER
CHECK CARD COUNTER
FETCH SCPP1 ID & HC FIELD
CHECK HC FIELD
CHECK SCPP1 ID
STORE CARD IMAGE
READ NEXT CARD
LE MAX ALLOWED CARDS
0
GT MAX ALLOWED CARDS
0
DECODE
EQ BLANK OR NMHC
0
OTHER
0
NE BLANK
0
EQ BLANK
0
PRINT ERROR MESSAGE
PRINT ERROR VALUES
ERROR ABORT
PRINT MESSAGE
PRINT VALUE
WRITE MESSAGE TO UNIT 9
ERROR ABORT
SET SCPP1 TO 9999

SCCDEF
031483/143504

SCCDEF (PAGE 2 OF 2)

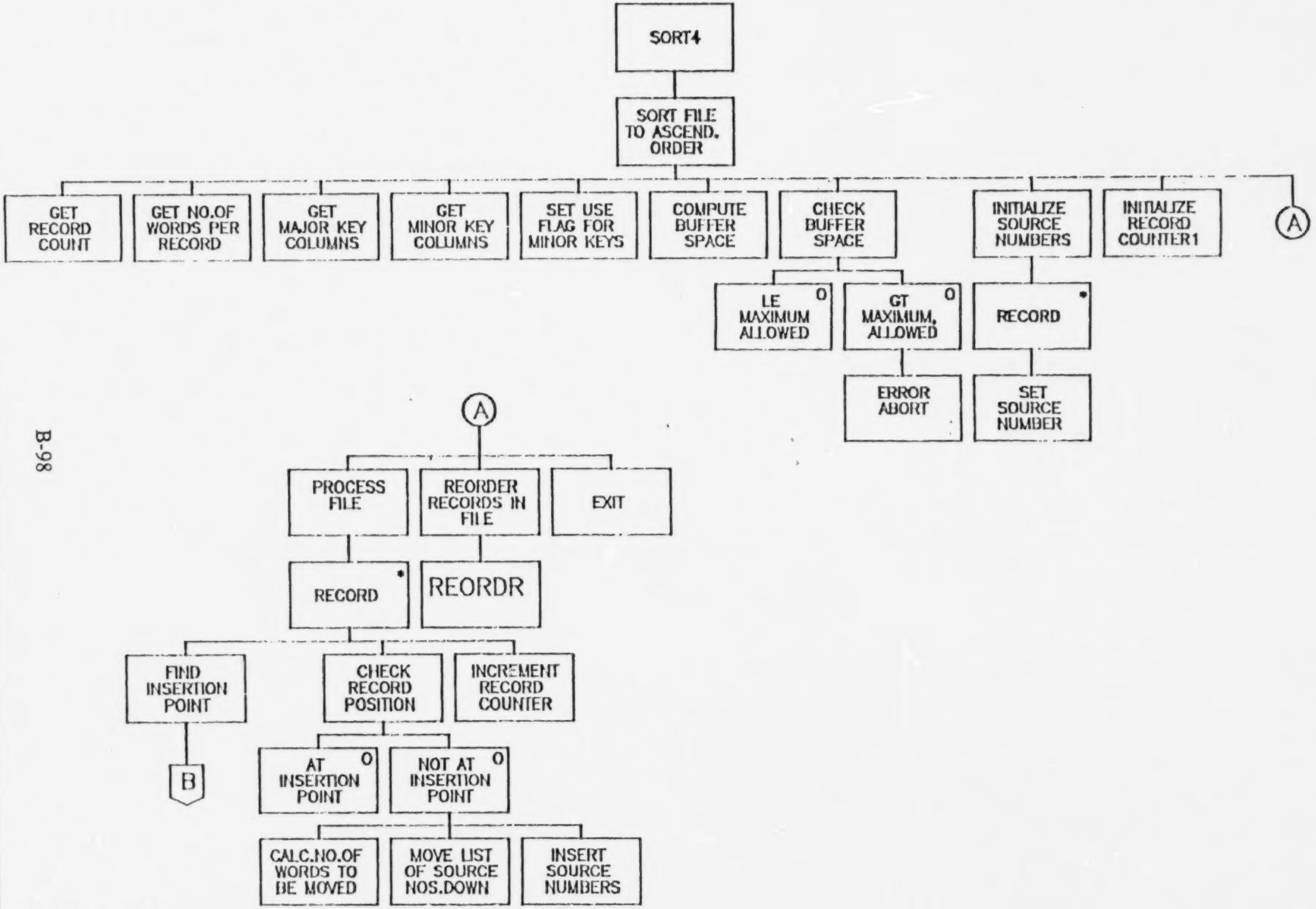
031583


A
FIX ALTERED SCPP1 IDS
REWIND PUNCH FILE
BUILD PROFILE2 FILE
INSERT EOF INDICATOR
PRINT PUNCH MESSAGE
PROCESS PROFILE/ SCC REPORT
EXIT
RECORD
CARDS
LIST3A
CHECK SCPP1 FIELD
SELECT FIELD OPTION
EXTRACT CARD IMAGE
PUT CARD IMAGE INTO FILE
SUBSTR
EQ 9999
O
NE 9999
O
RESET TO BLANK

SCCDEF–A
031483/143504

SORT4 (PAGE 1 OF 2)

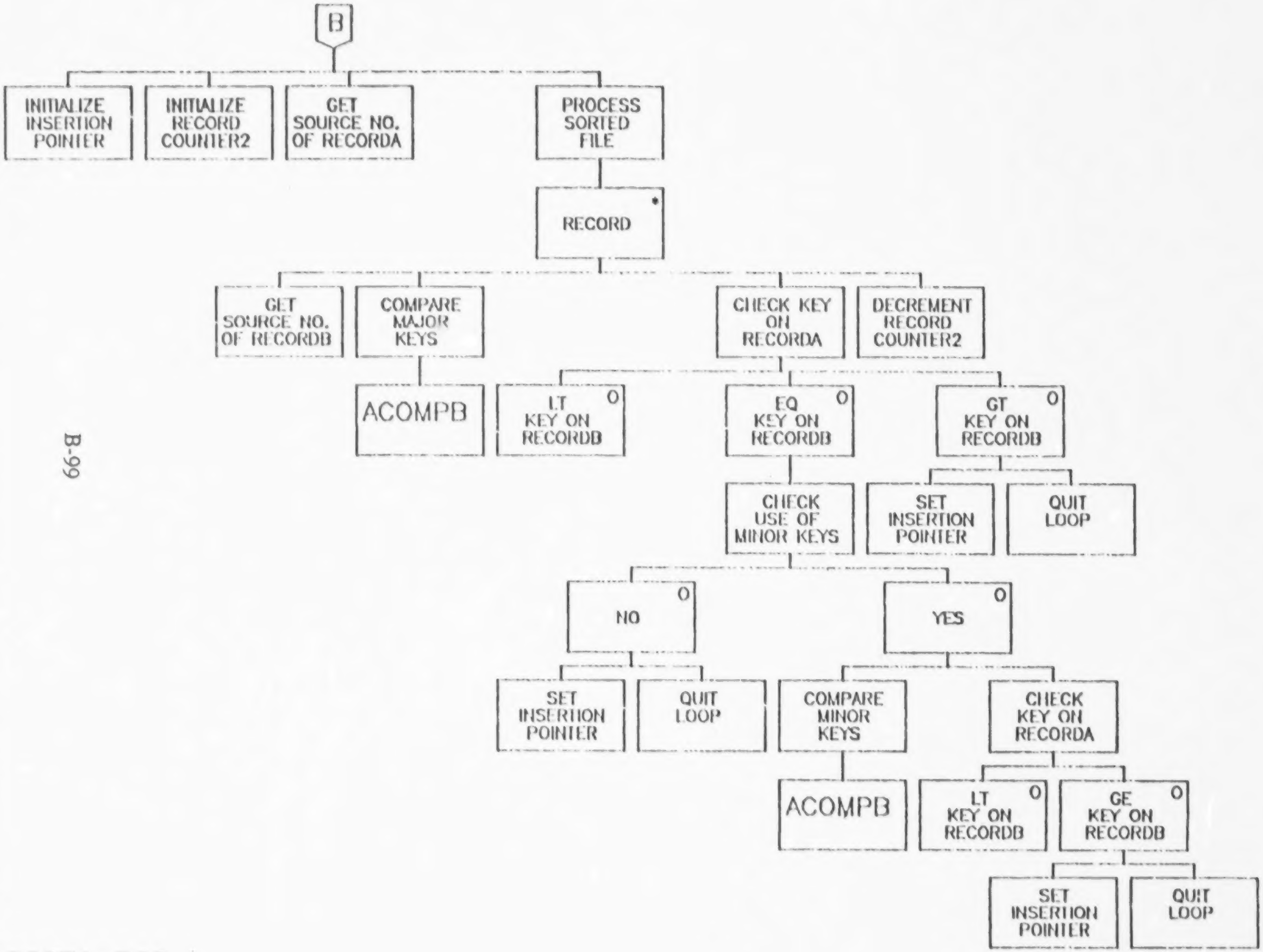
011283


SORT4
SORT FILE TO ASCEND. ORDER
GET RECORD COUNT
GET NO.OF WORDS PER RECORD
GET MAJOR KEY COLUMNS
GET MINOR KEY COLUMNS
SET USE FLAG FOR MINOR KEYS
COMPUTE BUFFER SPACE
CHECK BUFFER SPACE
LE MAXIMUM ALLOWED
O
GT MAXIMUM, ALLOWED
O
ERROR ABORT
INITIALIZE SOURCE NUMBERS
RECORD
*
SET SOURCE NUMBER
INITIALIZE RECORD COUNTER1
A
A
PROCESS FILE
REORDER RECORDS IN FILE
EXIT
RECORD
*
REORDR
FIND INSERTION POINT
B
CHECK RECORD POSITION
INCREMENT RECORD COUNTER
AT INSERTION POINT
O
NOT AT INSERTION POINT
O
CALC.NO.OF WORDS TO BE MOVED
MOVE LIST OF SOURCE NOS.DOWN
INSERT SOURCE NUMBERS

SORT4--PG1
080282/080657

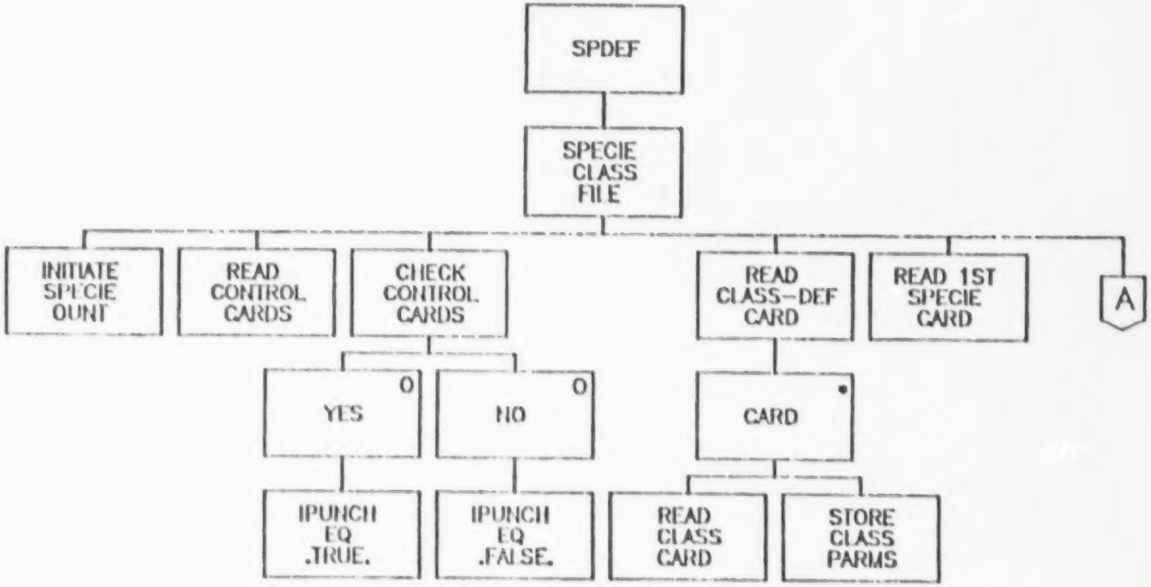
SORT4 (PAGE 2 OF 2)

031583

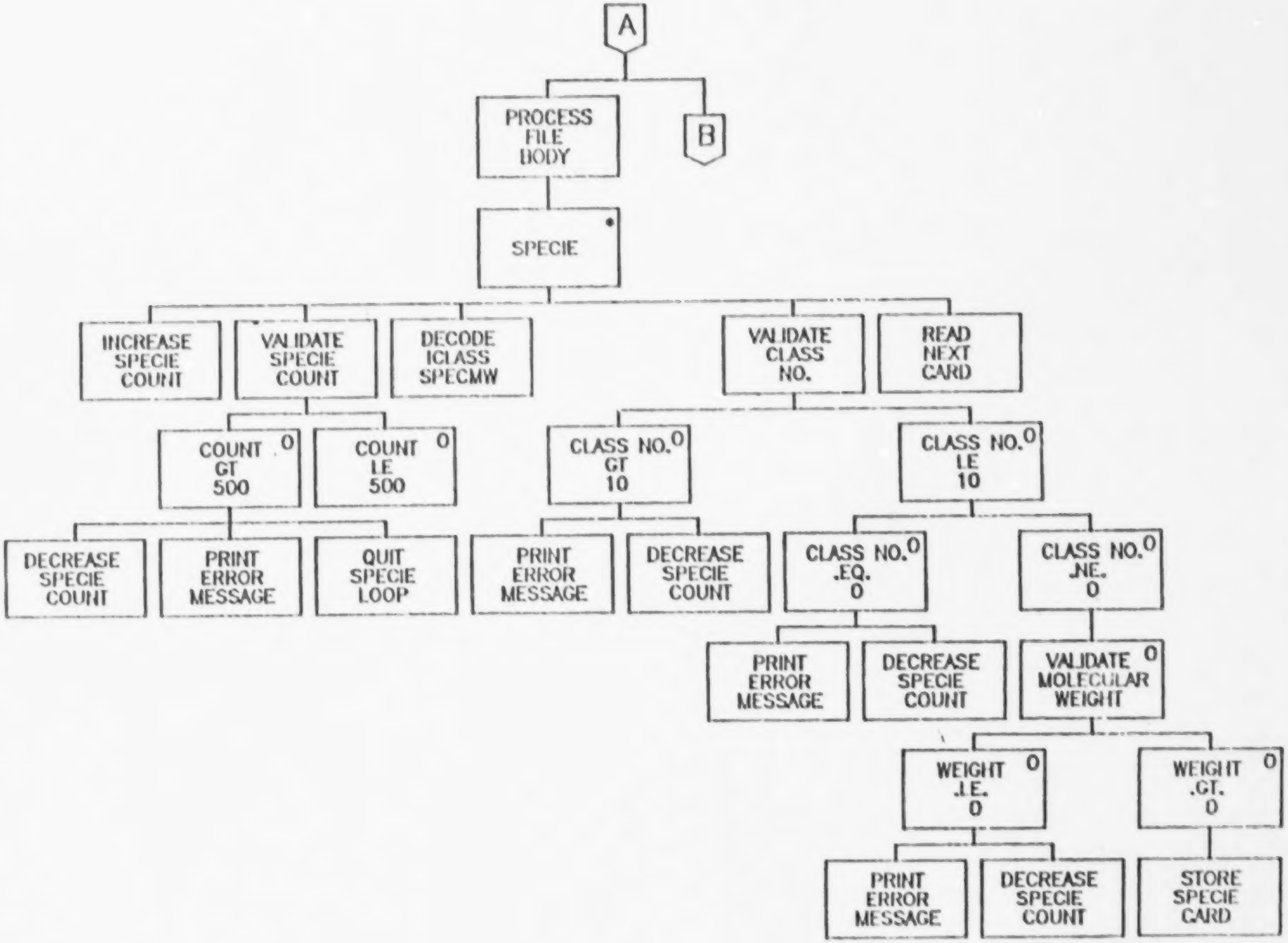

B
INITIALIZE INSERTION POINTER
INITIALIZE RECORD COUNTER2
GET SOURCE NO. OF RECORDA
PROCESS SORTED FILE
RECORD *
GET SOURCE NO. OF RECORDB
COMPARE MAJOR KEYS
ACOMPB
CHECK KEY ON RECORDA
DECREMENT RECORD COUNTER2
LT KEY ON RECORDB O
EQ KEY ON RECORDB O
GT KEY ON RECORDB O
CHECK USE OF MINOR KEYS
SET INSERTION POINTER
QUIT LOOP
NO O
YES O
SET INSERTION POINTER
QUIT LOOP
COMPARE MINOR KEYS
CHECK KEY ON RECORDA
ACOMPB
LT KEY ON RECORDB O
GE KEY ON RECORDB O
SET INSERTION POINTER
QUIT LOOP

SORT4-PG2
031583/165548

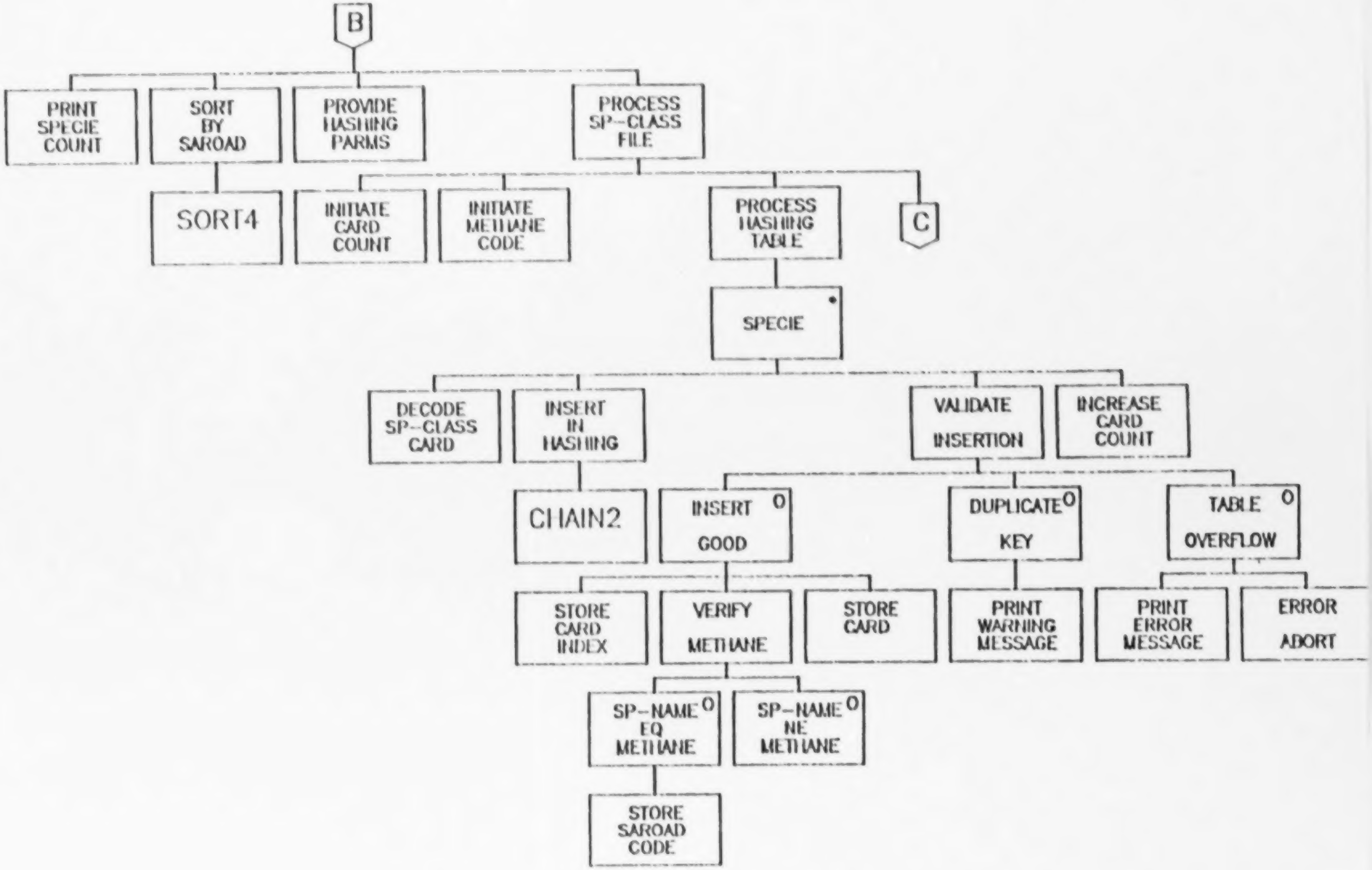
SPDEF (PAGE 1 OF 4)


SPDEF
SPECIE CLASS FILE
INITIATE SPECIE OUNT
READ CONTROL CARDS
CHECK CONTROL CARDS
READ CLASS-DEF CARD
READ 1ST SPECIE CARD
A
YES
O
NO
O
CARD
•
IPUNCH EQ .TRUE.
IPUNCH EQ .FALSE.
READ CLASS CARD
STORE CLASS PARMS

SPDEF (PAGE 2 OF 4)

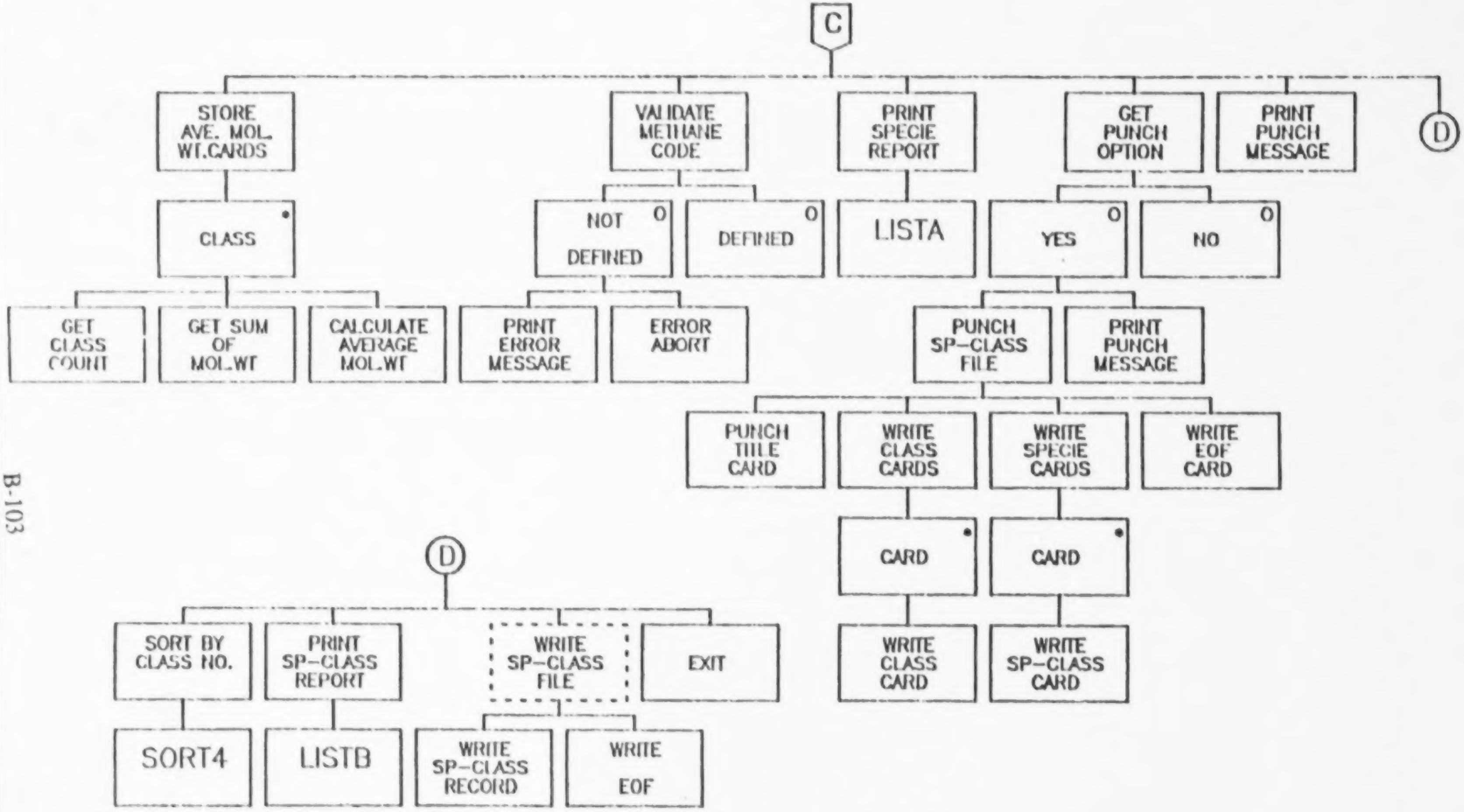

A
PROCESS FILE BODY
B
SPECIE
INCREASE SPECIE COUNT
VALIDATE SPECIE COUNT
DECODE ICLASS SPECMW
VALIDATE CLASS NO.
READ NEXT CARD
COUNT GT 500 O
COUNT LE 500 O
CLASS NO. GT 10 O
CLASS NO. LE 10 O
DECREASE SPECIE COUNT
PRINT ERROR MESSAGE
QUIT SPECIE LOOP
PRINT ERROR MESSAGE
DECREASE SPECIE COUNT
CLASS NO. .EQ. 0 O
CLASS NO. .NE. 0 O
PRINT ERROR MESSAGE
DECREASE SPECIE COUNT
VALIDATE MOLECULAR WEIGHT O
WEIGHT .LE. 0 O
WEIGHT .GT. 0 O
PRINT ERROR MESSAGE
DECREASE SPECIE COUNT
STORE SPECIE CARD

SPDEF (PAGE 3 OF 4)


B
PRINT SPECIE COUNT
SORT BY SAROAD
PROVIDE HASHING PARMS
PROCESS SP-CLASS FILE
SORT4
INITIATE CARD COUNT
INITIATE METHANE CODE
PROCESS HASHING TABLE
C
SPECIE
DECODE SP-CLASS CARD
INSERT IN HASHING
VALIDATE INSERTION
INCREASE CARD COUNT
CHAIN2
INSERT GOOD
DUPLICATE KEY
TABLE OVERFLOW
STORE CARD INDEX
VERIFY METHANE
STORE CARD
PRINT WARNING MESSAGE
PRINT ERROR MESSAGE
ERROR ABORT
SP-NAME EQ METHANE
SP-NAME NE METHANE
STORE SAROAD CODE

SPDEF-B
090883/142931

SPDEF (PAGE 4 OF 4) 090883


C
STORE AVE. MOL. WT.CARDS
CLASS
GET CLASS COUNT
GET SUM OF MOL.WT
CALCULATE AVERAGE MOL.WT
VALIDATE METHANE CODE
NOT DEFINED
DEFINED
PRINT ERROR MESSAGE
ERROR ABORT
PRINT SPECIE REPORT
LISTA
GET PUNCH OPTION
YES
NO
PUNCH SP-CLASS FILE
PRINT PUNCH MESSAGE
PUNCH TITLE CARD
WRITE CLASS CARDS
CARD
WRITE CLASS CARD
WRITE SPECIE CARDS
CARD
WRITE SP-CLASS CARD
WRITE EOF CARD
PRINT PUNCH MESSAGE
D
D
SORT BY CLASS NO.
SORT4
PRINT SP-CLASS REPORT
LISTB
WRITE SP-CLASS FILE
WRITE SP-CLASS RECORD
WRITE EOF
EXIT

SPDEF-C
090883/142931

7. References

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PSPLIT FORTRAN SOURCE CODE

The PSPLIT Source Code used in generating the 1985 NAPAP Emissions Inventory (Version 2) is listed in Figure B-2. The program modules listed represent the program version updated to accommodate the increased processing capabilities required for the NAPAP Version 2 Inventory. The individual program modules included in PSPLIT are listed below. The source code shown in Figure B-2 follows this order. All program modules are described in the PSPLIT User's Manual.

Source Code Files (same source is used for both U.S. and Canada):

psplit_2a.for
progid.for
adate.for
iocl.for
sccdef_2a.for
hcdef_2a.for
spdef_2a.for
poldef_2a.for
jprof1_2a.for
jspec1_2a.for
list1_2a.for
list3a.for
list3b.for
lista_2a.for
listc_2a.for
chem_3a.for
rdcopy.for
rdcard.for
chain2v1b.for
flnam2.for
merge_2a.for
sort4.for
acompb.for
match.for
move4.for
reordr.for
jfile2.for
jfile3.for
junit.for

Includes Files (go with source files):

blkl.cbk
params_1a.cbk
prid.cbk
profs_2a.cbk
specie_2a.cbk

FIGURE B-2. PSPLIT FORTRAN SOURCE CODE

```
C--- THIS FILE WAS COPIED FROM UNIVAC ELEMENT AWGPSPLIT.PSPLIT.
C--- PROGRAM CREATES POLLUTANT SPLIT FILE
C---
      IMPLICIT NONE
C     INCLUDE LESLIE*LESLIE.BLK1, LIST
C      INCLUDE '[AWG.PSPLIT]PROCS.TLB(BLK1)/LIST'
      INCLUDE 'BLK1.CBK'
C---
      INTEGER*4 JFILE2, JFILE3
      CALL PROGID('PSPLIT  ', 'V2A     ')
C--- DEFINE UNIT NUMBERS
C      IDEV2=2
C      IDEV3=3
C      IDEV7=7
C      IDEV8=8
C      IDEV9=9
C      IDEV10=10
C      IDEV11=11
C      IDEV12=12
C      IDEV13=13
C      IDEV15=15
C--- OPEN SCC PROFILE1
      IDEV2 = JFILE2(FILE02, .TRUE., .TRUE.)
C--- OPEN SCC PROFILE2
      IDEV3 = JFILE2(FILE03, .TRUE., .FALSE.)
C--- OPEN SPECIE CLASS1
      IDEV7 = JFILE2(FILE07, .TRUE., .TRUE.)
C--- OPEN SPECIE CLASS2
      IDEV8 = JFILE2(FILE08, .TRUE., .FALSE.)
C--- OPEN PSPLIT REPORTS
      IDEV9 = JFILE3(FILE09)
C--- OPEN HC PROFILE1
      IDEV10 = JFILE2(FILE10, .TRUE., .TRUE.)
C--- OPEN HC PROFILE2
      IDEV11 = JFILE2(FILE11, .TRUE., .FALSE.)
C--- OPEN POLLUTANT SPLITS
      IDEV12 = JFILE2(FILE12, .TRUE., .FALSE.)
C--- OPEN CHEMISTRY TRACE
      IDEV13 = JFILE3(FILE13)
C--- OPEN PROFILE CLASS AVMW
      IDEV15 = JFILE3(FILE15)
C--- CREATE SCC PROFILE FILE2
      CALL SCCDEF
C---CREATE HC PROFILE FILE8
```

(continued)

FIGURE B-2. (Continued)

```
      CALL HCDEF
C---CREATE SPECIE CLASS PROFILE FILE12
      CALL SPDEF
C--- CALCULATE POLLUTANT SPLITS
      CALL POLDEF
      CALL EXIT
      END

C--- THIS FILE WAS COPIED FROM UNIVAC ELEMENT WTS-IO-LIB1.PROGID.

C FILE [IOLIB1.WSIOLIB1]PROGIDV1C.FOR COPIED TO MAKE THIS PROGRAM
C        BY WTS OCT. 31, 1987
      SUBROUTINE PROGID(PNAME, PVERS)
C--- ROUTINE PRINTS PROGRAM NAME, VERSION, AND DATE/TIME
      IMPLICIT NONE
C      CHARACTER*12 PNAME
C      INTEGER*4 PVERS
      CHARACTER*8 PNAME, PVERS
C
C
C    PNAME           NAME OF PROGRAM
C    PVERS           PROGRAM VERSION
C
C
      CHARACTER*8 DATE, TIME
      INTEGER*4 IOST, IOCL
      CHARACTER*16 STRING
C---
C     INCLUDE NEROS*WTS-IO-LIB1.PRID, LIST
C      INCLUDE 'IOLIB1EXT1:PRIDV1C.EXT/LIST'
      INCLUDE 'FORCOPY:PRID.CBK/LIST'
C---
      EQUIVALENCE (DATE, STRING(1:8))
      EQUIVALENCE (TIME, STRING(9:16))
      NAMELIST /LIST1/ PRNAME, PRVER, STRING, IOST
      PRNAME=PNAME
      PRVER=PVERS
      CALL ADATE(DATE, TIME)
      READ (STRING, 220, IOSTAT=IOST) RUNDTE, RUNTIM
C220   FORMAT(I6, 2X, I6)
220   FORMAT(A6, 2X, A6)
      IF(IOST.NE.0) THEN
```

FIGURE B-2. (Continued)

```
             IOST=IOCL(IOST)
             PRINT 240
240         FORMAT(///, 1X, '*** ERROR ABORT IN ROUTINE PROGID ***',
/,
     $              1X, 'UNABLE TO DECODE DATE/TIME')
             PRINT LIST1
             CALL EXIT
             END IF
      PRINT 260, PRNAME, PRVER, RUNDTE, RUNTIM
C260    FORMAT('1', 'PROGRAM NAME: ', A12, '  PROGRAM VERSION: ',
I5,

260   FORMAT('1', 'PROGRAM NAME: ', A12, '  PROGRAM VERSION: ', A8,


C       $        '   RUN DATE/TIME: ', I6.6, '/', I6.6, /)
     $        '   RUN DATE/TIME: ', A6, '/', 2X,  A6, /)
      RETURN
      END


      SUBROUTINE ADATE(CDATE, CTIME)
C--- ROUTINE RETURNS CURRENT DATE AND TIME
      IMPLICIT NONE
      CHARACTER*8 CDATE, CTIME
C
C OUTPUT ARGUMENTS:
C    CDATE      CURRENT DATE (MMDDYY)
C    CTIME      CURRENT TIME (HHMMSS)
C
      CHARACTER*8 CD, CT, TIM
      INTEGER*4 IMON, IDAY, IYEAR, IOST
      DATA CD /'        '/
      DATA CT /'        '/
      NAMELIST /LIST1/ IMON, IDAY, IYEAR, IOST
      CALL IDATE(IMON, IDAY, IYEAR)
      WRITE (CD, 220, IOSTAT=IOST) IMON, IDAY, IYEAR
220   FORMAT(3I2.2)
      IF(IOST.NE.0) THEN
         PRINT 240
240      FORMAT(///, 1X, '*** ERROR ABORT IN ROUTINE ADATE ***',
/,
```

(continued)

FIGURE B-2. (Continued)

```
     $                  1X, 'ERROR ENCODING DATE')
           PRINT LIST1
           CALL EXIT
           END IF
      CALL TIME(TIM)
      CT(1:2)=TIM(1:2)
      CT(3:4)=TIM(4:5)
      CT(5:6)=TIM(7:8)
      CDATE=CD
      CTIME=CT
      RETURN
      END


C--- THIS FILE WAS COPIED FROM UNIVAC ELEMENT WTSUTILITY2.IOCL.

      FUNCTION IOCL(IOSTAT)

C--- FUNCTION EXTRACTS CLAUSE FIELD IN I/O STATUS WORD

      IMPLICIT NONE
      INTEGER*4 IOCL, IOSTAT
      IOCL=MOD(IOSTAT, 2**18)

      RETURN

      END


c--- version 2A created by Ted Smith Dec. 27, 1987
c--- maximum number of SCC profile cards increased from 1800 to
4000
C--- THIS FILE WAS COPIED FROM UNIVAC ELEMENT AWGPSPLIT.SCCDEF.
C***********************************
C--SUBROUTINE SCCDEF               *
C***********************************

          SUBROUTINE SCCDEF
       INCLUDE 'PARAMS_1A.CBK/LIST'

C--VARIABLE DECLARATION
       CHARACTER*16 NINER,SCPP1
```

(continued)

FIGURE B-2. (Continued)

```
       CHARACTER*16 BLANK,STRING
       CHARACTER*80 CARD,EOF
       CHARACTER*32 STORCD(MXSCC)
       CHARACTER*4 HC,NMHC,BLNK1

C----------------------------------------------
C      INCLUDE NEROS*UTILITY1.PRID,LIST
C      INCLUDE '[AWG.PSPLIT]PROCS.TLB(PRID)/LIST'
      INCLUDE 'PRID.CBK/LIST'
C      INCLUDE LESLIE*LESLIE.BLK1,LIST
C      INCLUDE '[AWG.PSPLIT]PROCS.TLB(BLK1)/LIST'
      INCLUDE 'BLK1.CBK/LIST'
C-----------------------------------------------
       DATA BLNK1/'    '/
       DATA NMHC/'NMHC'/
       DATA NREC/1800/
       DATA BLANK/'             '/
       DATA NINER/'999999999999'/
       DATA EOF/'                           '/
C-----------------------------------------
C---VARIABLE DATA STATEMENTS WITHIN PROGRAM
        DATA LREC/8/
        DATA NKEY1,NKEY2/1,13/
        DATA MKEY1,MKEY2/14,22/
C****************************************************
C--VARIABLE DECLARATIONS
C       CARD  =CARD IMAGE
C       ICNT  =CARD COUNTER (SYN WITH NREC)
C       MXSCC   =MAX CARDS ALLOWED
C       SCPP1 =SCPP1 ID
C       STRING=CARD FIELD RELATED TO SCPP1 CODE
C       STORCD=CARD FIELD STORED IN THIS AREA
C---------------------------------------------------
C--BEGIN PROGRAM EXECUTION
C---------------------------------------------------
C--GET DATE/TIME
C---CALL PROGID ('SCCDEF','82190')
C--REWIND DEVICE
        REWIND IDEV2

C--READ FIRST CARD
        READ (IDEV2,100,END=170) CARD
```

(continued)

FIGURE B-2. (Continued)

```
100     FORMAT(A32)
C--SET CARD COUNTER
        ICNT=0
C---------------------------------------------------
C****PROCESS FILE
C-----------------------------------------------------
C--CHECK EXIT POINT FROM ITERATION
125    IF (CARD .EQ. EOF) GO TO 170

C--INCREMENT CARD COUNTER
      ICNT=ICNT+1
C
C--CHECK CARD COUNTER
      IF (ICNT .GT. MXSCC) THEN
        WRITE (IDEV9, 150) ICNT, MXSCC, CARD
150     FORMAT(///, 1X, '*** error abort in routine SCCDEF *** ',
/,
     1          5X, 'maximum number of SCC profile cards exceeded
', /,
     2          5X, 'ICNT = ', I5, /,
     3          5X, 'MXSCC = ', I5, /,
     4          5X, 'CARD = ', A80, /)
        WRITE (6, 150) ICNT, MXSCC, CARD
        CALL EXIT
        END IF
C-----------------------------------------------
C--FETCH SCPP1 ID
C-------------------------------------------------------
       DECODE (32,160,CARD) SCPP1,HC
160     FORMAT (A13,14X,A4)
C---------------------------------------------------
C--CHECK HC FIELD
        IF (HC .EQ. BLNK1 .OR. HC .EQ. NMHC) GO TO 155
        WRITE (IDEV9,156)
        PRINT 156
156     FORMAT (2X,'ERROR ABORT IN ROUTINE SCCDEF***'
     X ' WRONG HC DEFINITION INSERTED')
       PRINT 157,HC,ICNT
157    FORMAT (2X,'HC DEFINITION INSERTED IS',2X,A4,2X,
     X ' CARD WHERE ERROR OCCURED IS',1X,I4)
        WRITE (IDEV9,157) HC,ICNT
       CALL EXIT
```

FIGURE B-2. (Continued)

```
155       IF (SCPP1 .EQ. BLANK) THEN
CCCC         SUBSTR (CARD,1,13)=NINER
          CARD(1:13)=NINER

         END IF
C---------------------------------------------------
C--STORE CARD IMAGE
         STORCD(ICNT)=CARD


C--READ NEXT CARD
         READ (IDEV2,165,END=170) CARD
165      FORMAT (A32)
         GO TO 125
C-----------------------------------------------------------
170     NREC=ICNT
         PRINT 175,NREC
175     FORMAT (1X,'TOTAL CARD COUNT IN SCC PROFILE FILE IS',2X,I4)

C---------------------------------------------------
        CALL SORT4 (NREC,STORCD,LREC,NKEY1,NKEY2,MKEY1,MKEY2)
C---------------------------------------------------
C--FIX ALTERED SCPP1 IDS
         DO 275 I=1,NREC
C--CHECK SCPP1 FIELD
C----------------------------------------------------
CCCC         STRING=SUBSTR (STORCD(I),1,13)
         STRING=STORCD(I)(1:13)


C----------------------------------------------------------
C---SELECT FIELD OPTION
         IF (STRING .EQ. NINER) THEN
CCCC         SUBSTR (STORCD(I),1,13)=BLANK
         STORCD(I)(1:13)=BLANK
         END IF
275      CONTINUE
C---------------------------------------------------------
C**BUILD PROFILE FILE
C--------------------------------------------------------
         REWIND IDEV3
```

(continued)

FIGURE B-2. (Continued)

```
        DO 425 I=1,NREC
        WRITE (IDEV3,400) STORCD(I)
400     FORMAT (A32)
425     CONTINUE
C--WRITE EOF TO RECORD
        WRITE (IDEV3,475) EOF
475     FORMAT (A80)
C--WRITE PUNCH MESSAGE TO FILE
       PRINT 500,IDEV3
500    FORMAT(1X,'RECORD FROM SCC PROFILE FILE WRITTEN ',
     1 'TO FILE PUNCH.,UNIT ',I3)
C--------------------------------------------------------
C--PROCESS WRITTEN REPORT
       CALL LIST3A(NREC,STORCD,LREC,HC,IDEV9)
C--------------------------------------------------------
        RETURN
        END


c--- version 2A created by Ted Smith on Dec. 20, 1987
c--- maximum number of species per profile increased from 75 to 325
c--- format of error message was changed
c
c--- version 2A modified by Ted Smith on Dec. 20, 1987
c--- maximum number of profiles increased for 175 to 320
c--- format of error messages changed
C--- THIS FILE WAS COPIED FROM UNIVAC ELEMENT AWGPSPLIT.HCDEF.
      SUBROUTINE HCDEF
C--- ROUTINE HCDEF READS HC PROFILE FILE(MAX 175 PROFILES)
C    AND CREATES HC PROFILE DEFINITION FILE AFTER SORTED BY
C    PROFILE ID
C--- THE CONTROL CARD FOR PUNCH FILE,USER ENTER 'YES' FOR THE
C    PUNCH REQUEST. OTHERWISE THE PROGRAM WILL NOT DO THE PUNCH.
C
      INCLUDE 'PARAMS_1A.CBK/LIST'
C---
C     INCLUDE LESLIE*LESLIE.PROFS,LIST
C      INCLUDE '[AWG.PSPLIT]PROCS.TLB(PROFS)/LIST'
      INCLUDE 'PROFS_2A.CBK/LIST'
```

(continued)

FIGURE B-2. (Continued)

```
C     INCLUDE LESLIE*LESLIE.BLK1,LIST
C      INCLUDE ’[AWG.PSPLIT]PROCS.TLB(BLK1)/LIST’
      INCLUDE ’BLK1.CBK/LIST’
C---
      NAMELIST/HCD1/PR,IOST2
C--
      LOGICAL IPUNCH,ERFLG,INSERT
      CHARACTER*8 PKEY1, SAROAD, PUNCH
      CHARACTER*9 REF1
      CHARACTER*38 COM1
      CHARACTER*40 SPNAM
      CHARACTER*80 PROF(MXPRCD),PR
      REAL*4 NOWT1, NO2WT1
      REAL*4 WMMWT, SUMMWT
C---
      EQUIVALENCE(PROF,CORE)
      EQUIVALENCE(PKEY1,KEY1)
C
      DATA ERFLG/.TRUE./

      DATA INSERT/.TRUE./,IOST1,IOST2/2*0/
C--- PUT DATE/TIME
C     CALL PROGID(’HCDEF’, ’82274’)
C---
      IA=0
C--- CONTROL CARD
      READ(5,10) PUNCH
   10 FORMAT(A8)
      IF(PUNCH .EQ. ’YES’)THEN
        IPUNCH=.TRUE.
      ELSE
        IPUNCH=.FALSE.
      END IF
C---
      READ(IDEV10,110,IOSTAT=IOST2)PR
  110 FORMAT(A80)
C--- PROCESS HC PROFILE CARDS(ITER. OF CARDS)
  112 IF(IOST2 .LT. 0)GO TO 200
      IF(IOST2 .NE. 0)THEN
        WRITE (IDEV9,113)
        PRINT 113
  113   FORMAT(1X, ’*** READ ERROR IN "HCDEF", ’,
```

(continued)

```
     2 'FILE 10,HC-PROFILE FILE MAY NOT EXIST IS PROPER FORM.',
     3 'RECHECK FILE EXISTENCE! ROUTINE ABORTED****')
        PRINT HCD1
        WRITE (IDEV9,HCD1)
        CALL EXIT
      END IF
      IA=IA+1
      IF(IA .GT. MXPRCD)THEN
        IIB=IA
        WRITE (6, 115)      IA, MXPRCD, PR
        WRITE (IDEV9, 115) IA, MXPRCD, PR
115     FORMAT(///, 1X, '*** error in routine HCDEF ***', /,
     1         5X, 'maximum number of profile cards exceeded ', /,
     2          5X, 'IA = ', I5, /,
     3          5X, 'MXPRCD = ', I5, /,
     4          5X, 'PR = ', A80, /)
        IA=IIB-1
        GO TO 200
      END IF
      PROF(IA)=PR
      READ(IDEV10,110, IOSTAT=IOST2)PR
      GO TO 112
  200 CONTINUE
C---
      JCARD=IA
      PRINT 201, JCARD
  201 FORMAT(1X, 'TOTAL CARDS IN HCDEF FILE= ',I4)
C--- SORT BY PKEY
      CALL SORT4(JCARD, PROF, 20, 1, 5, 0, 0)
C---
      NROW2=HSPROF
      NCOL2=4
C---
      IPR=0
      IB=1
C--- CREATE PROFILE DEFINITION FILE(ITER. OF PROFILE CARD)
C--- DECODE PROF-DEF CARD
  205 IF(IB .GT. JCARD)GO TO 260
      READ(PROF(IB), 210)PKEY1, NOWT1, NO2WT1, HCHOW1, REF1, COM1

  210 FORMAT(A5, T11, F5.2, T18, F5.2, T25, F5.2, T32, A9, A38)
C--- initialize weighted mean molecular weight and sum
```

FIGURE B-2. (Continued)

```
      WMMWT = 0.0
      SUMMWT = 0.0
C---
c--- omit this section of code (wts, 12/13/87)
c        IF((NOWT1.LT..05).AND.(NO2WT1.LT..05))THEN
c          NOWT1=.90
c          NO2WT1=.90
c        END IF
      CALL CHAIN2(KEY1, 2, INSERT, NCOL2, NROW2, IHASH2, IOST,
     2            KK)
      IOST3=IOST
C--- VALIDATE INSERTION
      IF(IOST3 .EQ. 0)THEN
        IPR=IPR+1
        IHASH2(4, KK)=IPR
        ERFLG=.FALSE.
        IF(IPR .GT. MXPROF)THEN
          JPR=IPR
          WRITE (6, 215)     JPR, MXPROF, IB, PROF(IB)
          WRITE (IDEV9, 215) JPR, MXPROF, IB, PROF(IB)
215       FORMAT(///, 1X, '*** error in routine HCDEF ***', /,
     1           5X, 'maximum number of profiles exceeded', /,
     2           5X, 'JPR = ', I5, /,
     3           5X, 'MXPROF = ', I5, /,
     4           5X, 'IB = ', I5, /,
     5           5X, 'PROF(IB) = ', A80, /)
          IPR=JPR-1
          GO TO 260
        END IF
C--- STORE PROFILE DATA
        PRKEY(IPR)=PKEY1
        NO(IPR)=NOWT1
        NO2(IPR)=NO2WT1
        HCHO(IPR)=HCHOW1
      END IF
      IF(IOST3 .EQ. 1)THEN
        ERFLG=.TRUE.
        WRITE (IDEV9,220)
        PRINT 220
  220   FORMAT(1X, '***PROFILE KEY DUPLICATED IN HASHING ',
     2                'TABLE,ERROR OCCURS IN ROUTINE HCDEF***')
        PRINT 221,PROF(IB)
```

(continued)

FIGURE B-2. (Continued)

```
        WRITE (IDEV9,221)
  221   FORMAT(1X, A80)
      END IF
      IF(IOST3 .EQ. 2)THEN
        WRITE (6, 225)    IOST3, IPR, MXPROF, HSPROF, IB, PROF(IB)
        WRITE (IDEV9, 225) IOST3, IPR, MXPROF, HSPROF, IB, PROF(IB)
225     FORMAT(///, 1X, '*** error in routine HCDEF ***', /,
     1          5X, 'maximum number of entries in profile hashing
',
     2              'table exceeded ',/,
     3         5X, 'IOST3 = ', I5, /,
     3         5X, 'IPR = ', I5, /,
     4         5X, 'MXPROF = ', I5, /,
     5         5X, 'HSPROF = ', I5, /,
     6         5X, 'IB = ', I5, /,
     7         5X, 'PROF(IB) = ', A80, /)
        GO TO 260
      END IF
C
      IB=IB+1
C--- CHECK ERROR FLAG
      IF(.NOT. ERFLG )THEN
        ISP=0
C--- STORE SPECIE CARDS(ITER. OF SPECIE)
  228   IF(IB .GT. JCARD)GO TO 250
        READ(PROF(IB),230)ITYPE
  230   FORMAT(T80, I1)
        IF(ITYPE .EQ. 2)GO TO 250
        ISP=ISP+1
        IF(ISP .GT. MXPRSP)THEN
          IISP=ISP
          WRITE (6, 235) MXPRSP, ISP, IPR, PKEY1, IB, PROF(IB)
235       FORMAT(///, 1X, '*** error in routine HCDEF ***', /,
     1          5x, 'number of species per profile has ',
     2              'exceeded allowed maximum', /,
     3          5x, 'MXPRSP = ', I5, /,
     4          5X, 'ISP = ', I5, /,
     5          5X, 'IPR = ', I5, /,
     6          5X, 'PKEY1 = ', A8, /,
     7          5X, 'IB = ', I5, /,
     8          5X, 'PROF(IB) = ', A80, /)
          WRITE (IDEV9, 235) MXPRSP, ISP, IPR, PKEY1, IB, PROF(IB)
```

(continued)

FIGURE B-2. (Continued)

```
          ISP=IISP-1
        ELSE
          READ(PROF(IB),240)SAROAD,SPECWT, SPECMW,SPNAM
  240     FORMAT(T8, A5, T15, F10.2, T27, F10.2, A40)
          SPCOD2(ISP, IPR)=SAROAD
          SPWT2(ISP, IPR)=SPECWT
C--- accumulate sum for weighted molecular weight
          SUMMWT = SUMMWT + (SPECWT * SPECMW)
C--- PREPARE  SPECIE RECORD
C--- WRITE SPECIE RECORD
C
          CALL LISTC(IPR,PKEY1,NOWT1,NO2WT1, HCHOW1, REF1, COM1,

     2                ISP, SAROAD, SPECWT, SPECMW, SPNAM, IOST1,
WMMWT)
C
        END IF
C---
        IB=IB+1
        GO TO 228
  250   CONTINUE
        MSPEC(IPR)=ISP
C--- compute and store weighted mean molecular weight
       WMMWT = SUMMWT / 100.0
       SPMWT2(IPR) = WMMWT
C--- write specie record
          CALL LISTC(IPR,PKEY1,NOWT1,NO2WT1, HCHOW1, REF1, COM1,

     2                ISP, SAROAD, SPECWT, SPECMW, SPNAM, IOST1,
WMMWT)

      END IF
      GO TO 205
  260 CONTINUE
      NPROF=IPR

C---
      PRINT 265,NPROF
  265 FORMAT(1X, 'TOTAL PROFILE COUNT= ', 1X, I4)
C--- WRITE  EOF TO INTERMEDIATE FILE
C--- GET PUNCH OPTION
      IF(IPUNCH)THEN
```

FIGURE B-2. (Continued)

```
        REWIND IDEV11
        IC=1
  270   IF(IC .GT. JCARD)GO TO 275
        WRITE(IDEV11, 110)PROF(IC)
        IC=IC+1
        GO TO 270
  275   CONTINUE
C--- WRITE EOF
        IOST1=1
        CALL LISTC(NPROF, PKEY1, NOWT1, NO2WT1, HCHOW1, REF1,
     2           COM1, ISP, SAROAD, SPECWT, SPECMW, SPNAM, IOST1,
WMMWT)
        END FILE IDEV11
        CALL CLOSE (IDEV11)
C--- PRINT  PUNCH MESSAGE
        PRINT 277,IDEV11
  277   FORMAT(1X, 'HYDROCARBON DEFINITION FILE HAS BEEN PUNCHED
',
     2           'OUT TO UNIT NO. ', I3,/)
      END IF
C--- WRITE PROFILE DEF.  FILE.
C--- WRITE PROFILE DEFINITION EOF
      RETURN
      END




c--- version 2A created by Ted Smith Dec. 27, 1987
c--- maximum number of species per class increased from 500 to 640
c--- format of error messages revised
c
c--- version 2A modified by Ted Smith Jan. 2, 1988
c--- maximum number of specie classes increased from 30 to 32
c
c--- version 2A modified by Ted Smith Jan. 23, 1988
c--- format for specie weight on 175 changed from F10.5 to F10.2
```

(continued)

FIGURE B-2. (Continued)

```
C
C--- THIS FILE WAS COPIED FROM UNIVAC ELEMENT AWGPSPLIT.SPDEF.
      SUBROUTINE SPDEF
C--- ROUTINE SPDEF READS CLASS FILE AND STORES RESULTS INTO
C    SPECIE DEFINITION FILE.
C--- THE CONTROL CARD FOR PUNCH,USER ENTER 'YES' TO PUNCH OUT THE

C    SPECIE CLASS DEFINITION FILE. OTHERWISE THE PROGRAM WILL NOT

C    DO SO.
C--- THE SPECIE DEFINITION FILE CONTAINS 10 CLASS DEFINITION CARDS

C    AND SEVERAL SPECIE CARDS.  THE EOF CARD IS A BLANK CARD.
C---
      INCLUDE 'PARAMS_1A.CBK/LIST'
C---
C     INCLUDE NEROS*UTILITY1.PRID,LIST
C      INCLUDE '[AWG.PSPLIT]PROCS.TLB(PRID)/LIST'
      INCLUDE 'PRID.CBK/LIST'
C     INCLUDE LESLIE*LESLIE.SPECIE,LIST
C      INCLUDE '[AWG.PSPLIT]PROCS.TLB(SPECIE)/LIST'
      INCLUDE 'SPECIE_2A.CBK/LIST'
C     INCLUDE LESLIE*LESLIE.BLK1,LIST
C      INCLUDE '[AWG.PSPLIT]PROCS.TLB(BLK1)/LIST'
      INCLUDE 'BLK1.CBK/LIST'
C---
      NAMELIST/SPD1/SP
      NAMELIST/SPD3/IOST
C---
      LOGICAL IPUNCH,INSERT
      INTEGER ICODE
      CHARACTER*4 PUNCH
      CHARACTER*5 CLASID
      CHARACTER*8 BLANK1,SAROAD
      CHARACTER*16 CLNAME
      CHARACTER*40 ISPNAM,SPNAM(MXCLSP)
      CHARACTER*80 SP, SPCARD(MXCLSP),BLANK
      DIMENSION ICL(MXCLASS),SUMW(MXCLASS)
      EQUIVALENCE(SAROAD,ICODE)
      DATA ICL/MXCLASS*0/, SUMW/MXCLASS*0./
      DATA INSERT/.TRUE./,BLANK/' '/, BLANK1/' '/, IPUNCH/.FALSE./
```

(continued)

FIGURE B-2. (Continued)

```
C--- PUT DATE/TIME
C     CALL PROGID('SPDEF', '82274')
C--- INITIATE SPECIE COUNT,KSP
      KSP=0
C--- READ CONTROL CARD
      READ(5,105)PUNCH
  105 FORMAT(A4)
      IF(PUNCH .EQ. 'YES')IPUNCH=.TRUE.
C--- READ CLASS DEFINITION FLE(ITER. OF CLASS)
      NCARD=0
      NCLASS=MXCLASS
      II=1
      READ(IDEV7,108) TITLE1
  108 FORMAT(A60)
  110 IF(II .GT. NCLASS) GO TO 120
      READ(IDEV7,116)CLASID,CLNAME
  116 FORMAT(A5, T11, A16)
      NCARD=NCARD+1
C--- STORE CLASS PARMS
      CLID(II)=CLASID
      CLNAM(II)=CLNAME
C---
      II=II+1
      GO TO 110
  120 CONTINUE
C--- READ 1 ST SPECIE CARD
      READ(IDEV7, 122)SP
  122 FORMAT(A80)
      NCARD=NCARD+1
C--- PROCES FILE BODY(ITER. OF SPECIE)
  125 IF(SP .EQ. BLANK)GO TO 160
      KSP=KSP+1
      IF(KSP .GT. MXCLSP)THEN
            IKSP=KSP
            KSP=KSP-1
            WRITE (IDEV9, 130) IKSP, MXCLSP, SP
130         FORMAT(///, 1X, '** error in routine SPDEF **', /,
     1             5X, 'number of species over all classes has ',
     2                 'exceeded allowed maximum', /,
     3             5X, 'IKSP = ', I5, /,
     4             5X, 'MXCLSP = ', I5, /,
     5             5X, 'SP = ', A80, /)
```

(continued)

FIGURE B-2. (Continued)

```
           WRITE (6, 130) IKSP, MXCLSP, SP
           GO TO 160
      END IF
C--- DECODE CLASS NO. AND SPECIE MOLECULAR WT.
      READ(SP,145)ICLS,SPMW
  145 FORMAT(T9, I2, F10.2)
C--- VALID CLASS NO.
      IF(ICLS .GT. MXCLASS)THEN
         WRITE (6, 150)     ICLS, MXCLASS, KSP, SP
         WRITE (IDEV9, 150) ICLS, MXCLASS, KSP, SP
150      FORMAT(///, 1X, '*** error in routine SPDEF ***', /,
    1          5X, 'class number greater than allowed maximum',
/,
    2          5X, 'ICLS = ', I5, /,
    3          5X, 'MXCLASS = ', I5, /,
    4          5X, 'KSP = ', I5, /,
    5          5X, 'SP = ', A80, /)
             KSP=KSP-1
     ELSE
     IF(ICLS .EQ. 0)THEN
       WRITE (IDEV9,152) NCARD,SP
          PRINT 152,NCARD,SP
 152      FORMAT(1X,'*** CLASS NO. EQUALS 0,ERROR APPEARS IN ',

    2           'ROUTINE "SPDEF" AS CARD #', I4, ' :'/1X,A80)
          KSP=KSP-1
     ELSE
     IF(SPMW .LE. 0.)THEN
        WRITE (IDEV9,1559
            PRINT 155
 155         FORMAT(1X, '*** SPECIE MOLECULAR WT. IS LESS THAN
',
   2                    'OR EQUAL TO 0,ERROR APPEARS IN ROUTINE',

   3                      ' SPDEF')
        WRITE (IDEV9,SPD1)
          PRINT SPD1
          KSP=KSP-1
    ELSE
    SPCARD(KSP)=SP
    END IF
    END IF
```

(continued)

FIGURE B-2. (Continued)

```
        END IF
        READ(IDEV7,122)SP
        NCARD=NCARD+1
        GO TO 125
  160 CONTINUE
C---
        NSPEC=KSP
        PRINT 170,NSPEC
  170 FORMAT(1X, 'NUMBER OF SPECIE CARDS READ = ', 1X, I4)
C--- SORT BY SAROAD CODE
        CALL SORT4(NSPEC, SPCARD, 20, 1, 5, 0, 0)
C--- GET HASHING PARMS
        NROW1=HSCLSP
        NCOL1=4
        LKEY1=2
C--- PROCESS SPECIE CLASS FILE
        I=1
        CH4=BLANK
  173 IF(I .GT. NSPEC)GO TO 190
        READ(SPCARD(I), 175)SAROAD,ICLASS,SPECMW,NSBOND,ISPNAM
  175 FORMAT(A5, T9, I2, F10.2, I5, T31, A40)
C--- INSERT INTO HASHING TABLE
        CALL CHAIN2(ICODE, LKEY1, INSERT, NCOL1, NROW1, IHASH1,
     2              IOSTAT, KK)
        IOST=IOSTAT
C--- VALIDATE INSERTION
        IF(IOST .EQ. 0)THEN
              IHASH1(4, KK)=I
              IF(ISPNAM .EQ. 'METHANE')THEN
                    CH4=SAROAD
              END IF
        SPCOD1(I)=SAROAD
        SPCLAS(I)=ICLASS
        SPMW1(I)=SPECMW
        NSB(I)=NSBOND
        SPNAM(I)=ISPNAM
C
        IB=ICLASS
        ICL(IB)=ICL(IB)+1
        SUMW(IB)=SUMW(IB)+SPECMW
        ELSE
        IF(IOST .EQ. 1)THEN
```

(continued)

FIGURE B-2. (Continued)

```
         WRITE (IDEV9,180) SAROAD
           PRINT 180,SAROAD
  180      FORMAT(1X, 'WARNING : KEY DUPLICATED IN HASHING',
     2                ' TABLE,SAROAD CODE = ' ,A10, 2X,
     3                ' DUPLICATION HAPPENS IN ROUTINE SPDEF')
      ELSE
      IF(IOST .EQ. 2)THEN
        WRITE (IDEV9,185)
            PRINT 185
  185       FORMAT(1X, 'HASHING TABLE OVERFLOW,ERROR HAPPENS',
     2                 ' IN ROUTINE SPDEF. ROUTINE ABORTED')
         PRINT SPD3
         WRITE (IDEV9,SPD3)
            CALL EXIT
            END IF
      END IF
      END IF
      I=I+1
      GO TO 173
  190 CONTINUE
C--- STORE AVERAGE MOLECULAR WT.
      IC=1
  200 IF(IC .GT. NCLASS)GO TO 210
      IF(ICL(IC) .NE. 0)THEN
           AJJ=ICL(IC)
           SUM1=SUMW(IC)
           CLMW(IC)=SUM1/AJJ
           END IF
      IC=IC+1
      GO TO 200
  210 CONTINUE
C--- VALIDATE METHANE COUNT
      IF(CH4 .EQ. BLANK1)THEN
          WRITE (IDEV9,215)
           PRINT 215
  215      FORMAT(1X, 'METHANE COUNT EQUALS ZERO,ERROR ',
     2                'APPEARS IN ROUTINE SPDEF')
           CALL EXIT
           END IF
C---
      CALL LISTA(SPNAM,ICL)
C---
```

(continued)

FIGURE B-2. (Continued)

```
      IF(IPUNCH)THEN
       WRITE (IDEV8,218) TITLE1
218    FORMAT(A60)
            IG=1
  220       IF(IG .GT. NCLASS)GO TO 225
            WRITE(IDEV8,116)CLID(IG),CLNAM(IG)
            IG=IG+1
            GO TO 220
  225       CONTINUE
C------
            IH=1
  230       IF(IH .GT. NSPEC)GO TO 235
            WRITE(IDEV8,122)SPCARD(IH)
            IH=IH+1
            GO TO 230
  235       CONTINUE
C------
            WRITE(IDEV8, 122)BLANK
C
            END FILE IDEV8
C
            PRINT 240,IDEV8
  240       FORMAT(1X, 'SPECIE DEFINITION FILE HAS BEEN PUNCHED',

     3                 ' USING UNIT NO. ', I4)
            END IF
C--- SORT BY CLASS NO.
      CALL SORT4(NSPEC, SPCARD, 20, 9, 10, 0, 0)
C---
      CALL LISTB(SPCARD)
C--- WRITE SPECIE CLASS FILE--THE INTERMEDIATE FILE.
      RETURN
C---
      END
```

(continued)

FIGURE B-2. (Continued)

```
c--- version 2A created by Ted Smith on Dec. 20, 19878
c--- maximum number of species per profile increased from 75 to 325
C--- hard coded dimension of local arrays replaced with parameter
symbol
c--- MXPRSP
c
c--- version 2A modified by Ted Smith Dec. 27, 1987
c--- maximum number of species over all classed increased from 500
to 640
c
c--- version 2A modified by Ted Smith Jan. 2, 1988
c--- maximum number of specie classes increased from 30 to 32
c
c--- version 2A modified by Ted Smith Jan. 18, 1988
c--- format of splits changed to include 16 splits per records
c
C--- THIS FILE WAS COPIED FROM UNIVAC ELEMENT AWGPSPLIT.POLDEF.
C-----------------------------------------------------
C***  MAIN PROGRAM  P O L D E F  *******
C-----------------------------------------------------

          SUBROUTINE POLDEF

C**VARIABLE DECLARATIONS

       REAL NOWPC,NO2WPC

       INTEGER SPNSB,SPCLA


       CHARACTER*4 HC,NMHC
       CHARACTER*8 PKEY,BLANK,SAROAD,ISCC,ZERO
       CHARACTER*16 SCPP
       CHARACTER*80 TITLE
       INCLUDE 'PARAMS_1A.CBK/LIST'

       DIMENSION JSPEC(MXPRSP),SAROAD(MXPRSP),SPWTPC(MXPRSP),
     1  SPEMW(MXPRSP),
     1  SPCLA(MXPRSP),SPNSB(MXPRSP),PMFP(MXCLASS),MFP(MXCLASS)

C      INCLUDE LESLIE*LESLIE.BLK1,LIST
```

(continued)

FIGURE B-2. (Continued)

```
C       INCLUDE '[AWG.PSPLIT]PROCS.TLB(BLK1)/LIST'
      INCLUDE 'BLK1.CBK/LIST'
C       INCLUDE LESLIE*LESLIE.PROFS,LIST
C       INCLUDE '[AWG.PSPLIT]PROCS.TLB(PROFS)/LIST'
      INCLUDE 'PROFS_2A.CBK/LIST'
C       INCLUDE LESLIE*LESLIE.SPECIE,LIST
C       INCLUDE '[AWG.PSPLIT]PROCS.TLB(SPECIE)/LIST'
      INCLUDE 'SPECIE_2A.CBK/LIST'
C       INCLUDE NEROS*UTILITY1.PRID,LIST
C       INCLUDE '[AWG.PSPLIT]PROCS.TLB(PRID)/LIST'
      INCLUDE 'PRID.CBK/LIST'


       NAMELIST/POL2/SCPP,ISCC,PKEY,HC,JPR
       NAMELIST/POL3/SAROAD,JSP,JPR
       NAMELIST/POL4/MOLES,TMP,MOLEPC,MOLEFX
       NAMELIST/POL5/JPR,HC,ALDWPC,ADJUST
       NAMELIST/POL6/JSPEC
       NAMELIST/POL7/ICARD,SCPP,ISCC,TITLE,PKEY,ADJUST,PMFP,
     1  HC,NOWT,NO2WT,IOST
       NAMELIST/POL8/NSPEC,NCLAS,SPEMW,SPWTPC,SPCLA,SPNSB,
     1 JPR,PMFP

       DATA NMHC/'NMHC'/
       DATA BLANK/'        '/
      DATA ZERO/'00000000'/


C**VARIABLE DESCRIPTIONS

C* CLID   =CLASS IDENTIFICATION NUMBER
C* RUNDTE =RUN DATE
C* RUNTIM =RUN TIME
C* TITLE  =VARIABLE DESCRIPTION OF FILE
C* SCPP   =STATE COUNTY PLANT POINT CODE
C* ISCC   =STATE CODE
C* HC     =FIELD DESCRIPTOR FOR HYDROCARBON OR NON-METHANE HC
C* JPR     =PROFILE KEY
C* NOWPC  =NO WEIGHT PERCENT OF PROFILE
C* NO2WPC =NO2 WEIGHT PERCENT OF PROFILE
C* ALDWPC =ALDEHYDE WEIGHT PERCENT OF PROFILE
```

(continued)

FIGURE B-2. (Continued)

```
C* ADJUST =ADJUSTED ALDEHYDE WEIGHT PERCENT OF PROFILE
C* SAROAD =SAROAD CODE FOR SPECIE
C* NSPEC  =NUMBER OF SPECIES IN PROFILE
C* SPWTPC =SPECIE WEIGHT PERCENT OF SPECIE(I) IN PROFILE(J)
C* SPCLA  =CLASS ID FOR SPECIE(I) IN PROFILE (J)
C* SPMW   =MOLECULAR WEIGHT FOR SPECIE(I) IN PROFILE(J)
C* SPNSB  =NUMBER OF SINGULAR BONDS FOR SPECIE(I) IN PROFILE (J)
C* PMFP    =PROFILE MOLE FACTOR PERCENTS OF EACH CLASS IN PROFILE
(J)
C* ICARD  =CARD COUNT OF NUMBER OF SCC CODES IN PROFILE
C*
C*-----------------------------------------------------------------
---
C* BEGIN PROGRAM EXECUTION
C*-----------------------------------------------------------------
----
C--READ/STORE HC DEFINITION FROM COMMON
C      CALL HCDEF

C--READ/STORE SPECIE DEFINITION PROFILE FROM COMMON
C      CALL SPDEF


C--GET DATE/TIME OF LISTING FROM COMMON

C--SET IOST STATUS (STATUS FLAG)
       IOST=0

C--WRITE HEADER TO FILE PSPLIT
C       ENCODE (100,TITLE) TITLE1,RUNDTE,RUNTIM
       WRITE (TITLE, 100) TITLE1,RUNDTE,RUNTIM
100    FORMAT (A60,T68,A6,'/',A6)

C--WRITE TITLE TO CHEMISTRY PRINT FILE
       WRITE (IDEV13,150) TITLE
       WRITE (IDEV12,151) CLID
151    FORMAT(16(A5),T114,'11',/16(A5),T114,'12')
150    FORMAT (A80)

C--REWIND SCCDEF FILE
       REWIND IDEV3
```

(continued)

FIGURE B-2. (Continued)

```
C--SET CARD COUNTER
       ICARD=1


C--READ FIRST CARD
       READ (IDEV3,200) SCPP,ISCC,PKEY,HC
200    FORMAT (A13,A8,1X,A5,A4)

C------------------------------------------------------------
C*PROCESS PROFILE
C------------------------------------------------------------

C--CHECK ITERATION
250    IF (ISCC.EQ.ZERO.OR.PKEY .EQ.BLANK) GO TO 1200

C--USE PKEY TO EXTRACT JPR
       JPR=JPROF1 (PKEY)


C--CHECK IF PKEY IS IN TABLE
       IF (JPR .EQ. 0) THEN

        WRITE (IDEV13,300)
300     FORMAT (1X,'*PKEY NOT IN TABLE*RECHECK DATA*')

        PRINT 325
325     FORMAT (1X,'*ERROR ABORT1 IN ROUTINE POLDEF* ',
     1   ' PKEY NOT IN TABLE')

        PRINT POL2
          CALL EXIT
      END IF

C--EXTRACT PROFILE DATUM INTO LOCAL VARIABLES

C--LOCAL VARIABLE
      NOWPC=NO (JPR)
      NO2WPC=NO2(JPR)
      ALDWPC=HCHO(JPR)
      NSPEC =MSPEC(JPR)
      NCLAS=NCLASS
```

FIGURE B-2. (Continued)

```
c--- remove adjustment for H2CO (wts, 12/13/87)
C--CHECK HC/THC FIELD ON CARD
c      IF (HC .EQ. NMHC) THEN
c
c        CALL H2CO (ALDWPC,NSPEC,JPR,ADJ)
c
c
cC--LOCAL VARIABLE
c        ADJUST=ADJ
c
c      ELSE
c
c      ADJUST=ALDWPC
c
c        END IF
         ADJUST=ALDWPC
C--WRITE MESSAGE TO FILE 13 ABOUT INPUT DATA
       WRITE (IDEV13,345)
345   FORMAT (1X,'*********************************************')

      WRITE (IDEV13,350) ICARD,JPR,NCLAS
350   FORMAT (/1X,'* DATA BELOW BELONGS TO CARD',1X,I6,1X,
     1 ' OF PROFILE',1X,I6,1X,'HAVING CLASSES 1 THROUGH',1X,I3)

C--WRITE VALUES TO INTERMEDIATE FILE
        WRITE (IDEV13, POL5)

C--PROCESS PROFILE SPECIES
        DO 400 I=1,NSPEC


C--LOCAL VARIABLES
        SAROAD(I)=SPCOD2 (I,JPR)
        SPWTPC(I)=SPWT2 (I,JPR)

C--FETCH JSPEC FOR SPECIE
        JSP=JSPEC1 (SAROAD(I))

C--CHECK IF SAROAD CODE IN TABLE
        IF (JSP .EQ. 0) THEN

         WRITE (IDEV13,375)
```

(continued)

FIGURE B-2. (Continued)

```
375     FORMAT (1X,'*SAROAD CODE NOT IN TABLE*ROUTINE POLDEF*')

        PRINT 395
395     FORMAT (1X,'*ERROR ABORT2 IN ROUTINE POLDEF* ',
     1 ' SAROAD CODE NOT IN TABLE*')

        PRINT POL3
        CALL EXIT
        END IF

C--EXTRACT VARIABLES USING JSPEC
        SPCLA(I)=SPCLAS (JSP)
        SPEMW(I)=SPMW1(JSP)
        SPNSB(I)=NSB(JSP)

C-PUT JSP INTO LOCAL JSPEC ARRAY VALUE
         JSPEC(I)=JSP

400     CONTINUE

C--WRITE VALUES TO INTERMEDIATE FILE2
        WRITE (IDEV13, POL6)


C--CALCULATE CHEMISTRY
        CALL CHEM (NSPEC,NCLAS,SAROAD,ADJUST,SPEMW,SPWTPC,SPCLA,
     1   SPNSB,JPR,PMFP)

C
C--CONVERT PMFP ARRAY FROM REAL TO INTEGER
       DO 450 I=1,NCLAS
c       MFP(I)=PMFP(I)+0.5
c--- improve accuracy by keeping first decimal digit (wts 12/13/87)
       MFP(I)=(PMFP(I) * 10.0) + 0.5
450    CONTINUE

C--- CONVERT ADJUST,NOWPC,AND NO2WPC TO INTEGER
      IADJ=(ADJUST*100)+.5
      INO2=(NO2WPC*10)+.5
      INO =(NOWPC*10)+.5
C
```

FIGURE B-2. (Continued)

```
C--WRITE MOLE FACTORS OF PROFILE TO SPLITS FILE (IDEV12)
       WRITE (IDEV12,500)SCPP,ISCC,(MFP(I),I=1,16),IADJ,INO,INO2,

     1   SCPP,ISCC,(MFP(I),I=17,NCLAS)
c500    FORMAT(A13,A8,15(I4.4),3(I4.4),T94,’21’,/
c     1   A13,A8,15(I4.4),T94,’22’)
c--- include first decimal digit on splits (wts 12/13/87)
500    FORMAT(A13,A8,16(I5.5),3(I4.4),T114,’21’,/
     1   A13,A8,16(I5.5),T114,’22’)

C--WRITE SPLITS TO PSPLIT FILE
        CALL LIST1 (ICARD,SCPP,ISCC,TITLE,PKEY,ADJUST,PMFP,HC,
     1   NOWPC,NO2WPC,IOST)



C--END OF ITERATION READ NEXT CARD---
       READ (IDEV3,200) SCPP,ISCC,PKEY,HC

C--INCREMENT CARD COUNTER
       ICARD=ICARD+1
C
       GO TO 250
C
C--DECREMENT CARD COUNTER
 1200   ICARD=ICARD-1

C--INSERT EOF INDICATOR
       ENDFILE IDEV12

C--SET IOST
       IOST = 1

C--WRITE EOF
       CALL LIST1 (ICARD,SCPP,ISCC,TITLE,PKEY,ADJUST,PMFP,HC,
     1  NOWPC,NO2WPC,IOST)

       RETURN
       END
```

(continued)

FIGURE B-2. (Continued)

```
C-----------------------------------------------------------------
C*****************************************************************
c--- version 2A created by Ted Smith on Dec. 20, 1987
c--- number of species per profile increased from 75 to 325
C--- THIS FILE WAS COPIED FROM UNIVAC ELEMENT AWGPSPLIT.JPROF1.
C********************************************
C*  FUNCTION JPROF1
C********************************************

C**FUNCTION RETURNS PROFILE KEY

        FUNCTION JPROF1(PKEY)

C**VARIABLE DECLARATION
       LOGICAL LOGO

       CHARACTER*8 PKEY

       INCLUDE 'PARAMS_1A.CBK/LIST'
C      INCLUDE LESLIE*LESLIE.BLK1,LIST
C      INCLUDE '[AWG.PSPLIT]PROCS.TLB(BLK1)/LIST'
       INCLUDE 'BLK1.CBK/LIST'
C      INCLUDE LESLIE*LESLIE.PROFS,LIST
C      INCLUDE '[AWG.PSPLIT]PROCS.TLB(PROFS)/LIST'
       INCLUDE 'PROFS_2A.CBK'



       INTEGER*4 IKEY
       CHARACTER*8 CKEY
       EQUIVALENCE (IKEY, CKEY)
       DATA LKEY/2/

C**VARIABLE DESCRIPTIONS
```

(continued)

FIGURE B-2. (Continued)

```
C** PKEY  = PROFILE KEY TO BE FOUND IN HASHING TABLE
C** LKEY  = PROFILE KEY LENGTH SET EQUAL TO 2.
C** LOGO  = LOGICAL FOR CHAIN2
C** NCOL2 = NO OF COLUMNS IN HASHING TABLE
C** NROW2 = NO OF ROWS IN HASHING TABLE
C** IHASH2= HASHING TABLE IDENTIFICATION
C** IRET  = RETRIEVAL CODE FROM CHAIN2
C** II    = INDEX OF PKEY WITHIN IHASH2




C**-----------------------------------------
C* BEGIN EXECUTIONS
C**-----------------------------------------
C--FETCH PROFILE KEY FROM ARGUEMENT

C--SET LENTRY LENGHT IN DATA STATEMENT

C--FETCH ARGUEMENTS NECESSARY FROM COMMON

C--SET LOGO
       LOGO=.FALSE.
C--- CHAIN2 EXPECTS AN INTEGER KEY
       CKEY=PKEY
C--CALL CHAIN2 --GET INSERTION CODE
       CALL CHAIN2(IKEY,LKEY,LOGO,NCOL2,NROW2,IHASH2,IRET,II)

C--CHECK INSERTION CODE
       IF (IRET .EQ. 2) THEN
        WRITE (IDEV9,100)
100     FORMAT (1X,'*ERROR ABORT IN ROUTINE JPROF1** '
     1 ' *PROFILE KEY NOT IN PROFILE DEFINITION FILE*')
        PRINT 100

        WRITE (IDEV13,110) PKEY,LKEY,NCOL2,NROW2,IRET

        PRINT 110,PKEY,LKEY,NCOL2,NROW2,IRET
110     FORMAT (1X,'PROFILE KEY ACCESSED',1X,A8,1X,
     1 ' PROFILE KEY LENGTH ACCESSED',1X,I3,1X,
     2 ' IN COLUMN',1X,I3,1X,'AND ROW OF',1X,I3,1X,
```

(continued)

FIGURE B-2. (Continued)

```
     3 ' RETRIEVAL CODE IN QUESTION',1X,I3)

C----------SET JPROF1 = 0
        JPROF1=0
       ELSE

C--FETCH JPROF1 VALUE USING INDEX
        JPROF1=IHASH2(4,II)

       END IF
       RETURN

       END




C*****************************************************************
c--- version 2A created by Ted Smith Dec. 27, 19878
c--- maximum number of species over all classes increased from 500
to 640
C--- THIS FILE WAS COPIED FROM UNIVAC ELEMENT AWGPSPLIT.JSPEC1.
C**********************************************
C*  FUNCTION JSPEC1
C**********************************************

C**FUNCTION RETURNS SPECIE KEY

        FUNCTION JSPEC1(SAROD)

C**VARIABLE DECLARATION
       CHARACTER*8 SAROAD,SAROD
       INTEGER*4 ISAROD
       EQUIVALENCE (SAROAD, ISAROD)
       LOGICAL LOGO

       INCLUDE 'PARAMS_1A.CBK/LIST'
C      INCLUDE LESLIE*LESLIE.BLK1,LIST
C      INCLUDE '[AWG.PSPLIT]PROCS.TLB(BLK1)/LIST'
       INCLUDE 'BLK1.CBK/LIST'
```

(continued)

FIGURE B-2. (Continued)

```
C      INCLUDE LESLIE*LESLIE.SPECIE,LIST
C      INCLUDE '[AWG.PSPLIT]PROCS.TLB(SPECIE)/LIST'
       INCLUDE 'SPECIE_2A.CBK/LIST'



       DATA LKEY/2/

C**VARIABLE DESCRIPTIONS
C** PKEY  = PROFILE KEY TO BE FOUND IN HASHING TABLE
C** LKEY  = PROFILE KEY LENGTH SET EQUAL TO 2.
C** LOGO  = LOGICAL FOR CHAIN2
C** NCOL2 = NO OF COLUMNS IN HASHING TABLE
C** NROW2 = NO OF ROWS IN HASHING TABLE
C** IHASH2= HASHING TABLE IDENTIFICATION
C** IRET  = RETRIEVAL CODE FROM CHAIN2
C** II    = INDEX OF PKEY WITHIN IHASH2




C**-----------------------------------------
C* BEGIN EXECUTIONS
C**-----------------------------------------
C--PLACE VARIABLE INTO INTERNAL VARIABLE
         SAROAD=SAROD

C--FETCH PROFILE KEY FROM ARGUEMENT

C--SET LENTRY LENGHT IN DATA STATEMENT

C--FETCH ARGUEMENTS NECESSARY FROM COMMON

C--SET LOGO
       LOGO=.FALSE.

C--CALL CHAIN2 --GET INSERTION CODE
       CALL CHAIN2(ISAROD,LKEY,LOGO,NCOL1,NROW1,IHASH1,IRET,II)

C--CHECK INSERTION CODE
       IF (IRET .EQ. 2) THEN
```

(continued)

FIGURE B-2. (Continued)

```
        WRITE (IDEV9,100)
100     FORMAT (1X,'*ERROR ABORT IN ROUTINE JSPEC1* '
     1 ' *SAROAD CODE NOT IN TABLE*')
       PRINT 106
106    FORMAT (1X,'*INSERTION KEY AND MISSING SAROAD CODE LISTED
BELOW')
        PRINT 100
        WRITE (IDEV13,110) SAROAD,LKEY,NCOL1,NROW1,IRET

        PRINT 110,SAROAD,LKEY,NCOL1,NROW1,IRET
110     FORMAT (1X,'PROFILE SAROAD CODE ACCESSED',1X,A8,1X,
     1 ' PROFILE KEY LENGTH ACCESSED',1X,I3,1X,
     2 ' IN COLUMN',1X,I3,1X,'AND ROW OF',1X,I3,1X,
     3 ' RETRIEVAL CODE IN QUESTION',1X,I3)
C----------SET JSPEC1 = 0
        JSPEC1=0
       ELSE

C--FETCH JSPEC1 VALUE USING INDEX
        JSPEC1=IHASH1(4,II)

        END IF
       RETURN

       END
C*****************************************************************
```

```
c--- version 2A created by Ted Smith Dec. 27, 19878
c--- maximum number of species over all classes increased from 500
to 640
```

(continued)

FIGURE B-2. (Continued)

```
c
c--- version 2A modified by Ted Smith Jan. 2, 1988
c--- maximum number of specie classes increased from 30 to 32
c
c--- version 2A modified by Ted Smith Jan. 18, 1988
c--- one line added to splits report for column headers for classes
31 and 32
c
C--- THIS FILE WAS COPIED FROM UNIVAC ELEMENT AWGPSPLIT.LIST1.
C******************************************
C ** SUBROUTINE LIST1
C****************************************** ^Z

C**LIST1 SUBMITS REPORT PROGRAM FOR MAIN PROGRAM POLDEF

         SUBROUTINE LIST1(ICARD,SCPP,ISCC,TITLE,PKEY,ADJUST,PMFP,

     1    HC,NOWPC,NO2WPC,IOST)

C**VARIABLE DECLARATIONS

        REAL PMFP,NOWPC,NO2WPC

        CHARACTER*4 HC
        CHARACTER*8 PKEY,ISCC
        CHARACTER*16 SCPP
        CHARACTER*80 TITLE
C        CHARACTER*32,FLNAM, FLNAM2
        CHARACTER*64 FLNAM
        INCLUDE 'PARAMS_1A.CBK/LIST'
C       INCLUDE LESLIE*LESLIE.SPECIE,LIST
C      INCLUDE '[AWG.PSPLIT]PROCS.TLB(SPECIE)/LIST'
        INCLUDE 'SPECIE_2A.CBK/LIST'
C       INCLUDE NEROS*UTILITY1.PRID,LIST
C      INCLUDE '[AWG.PSPLIT]PROCS.TLB(PRID)/LIST'
        INCLUDE 'PRID.CBK/LIST'
C       INCLUDE LESLIE*LESLIE.BLK1,LIST
C      INCLUDE '[AWG.PSPLIT]PROCS.TLB(BLK1)/LIST'
        INCLUDE 'BLK1.CBK/LIST'

        DIMENSION PMFP (MXCLASS)
```

(continued)

FIGURE B-2. (Continued)

```
c        DATA MAX/52/
        DATA MAX/62/
        DATA IGO/1/

C**VARIABLE DESCRIPTION
C ** ICARD  =THE NUMBER OF PROFILE (LINE NUMBER)
C ** SCPP   =STATE COUNTY PLANT POINT
C ** ISCC   =STATE COUNTY CODE
C ** TITLE  =TITLE LABEL TO BE PLACED ON REPORT
C ** PKEY   =PROFILE KEY IN HASHING TABLE
C ** ADJUST =THE WEIGHT PERCENT ADJUSTMENT OF PROFILE
C ** PMFP   =PROFILE MOLE FACTOR PERCENTS OF ALL CLASSES IN PROF
C ** HC     =HC FIELD TELLS HOW ADJUSTMENT WAS ATTAINED
C ** NOWPC  =WEIGHT PERCENT OF NO IN PROFILE
C ** NO2WPC =WEIGHT PERCENT OF NO2 IN PROFILE
C ** NCLASS =NUMBER OF CLASSES IN PROFILE
C ** IOST   =STATUS OF ENTERING PROFILE

C-----------------------------------------------
C **BEGIN PROGRAM EXECUTION
C-----------------------------------------------

          GO TO (25,740) IGO

C--GET FILE CREATION DATE/TIME AND RUN DATE/TIME FROM COMMON

C--GET PRINTFILE FILE NAME
C25     FLNAM=FLNAM2(IDEV9)
25      CALL FLNAM2(IDEV9, FLNAM)

C--PROCESS REPORT**READ FIRST CARD***CHECK PAGE ITERATION
50     IF (IOST .EQ. 1) GO TO 800

C--WRITE HEADER TO FILE 9
      WRITE (IDEV9,75)
75    FORMAT('1     ** HYDROCARBON SPLITS REPORT SORTED BY',
c     1 ' SCPP ID AND SCC CODE **',//)
     1 ' SCPP ID AND SCC CODE **',/)

C--WRITE FILE DESCRIPTORS
      WRITE (IDEV9,200) RUNDTE,RUNTIM,RUNDTE,RUNTIM,FLNAM,TITLE
200    FORMAT(1X,'CREATION DATE/TIME OF PSPLIT FILE:',A6,'/',A6,
```

(continued)

FIGURE B-2. (Continued)

```
     1 2X,'DATE/TIME OF LISTING:',2X,A6,'/',A6,1X, /,
c     2 2X, 'NAME OF PRINTFILE:',A64,/,1X,'TITLE CARD:',A80,//)
     2 2X, 'NAME OF PRINTFILE:',A64,/,1X,'TITLE CARD:',A80,/)

C--PRINT HEADERS
        WRITE (IDEV9,300)
300     FORMAT (68X,'PROFILE MOLE FACTORS X 100 (MOLES PER KG)')

        WRITE (IDEV9,400) CLID
4                           0                            0
FORMAT(T63,10(A5,2X),/T8,'PROF',T18,'SCPP',T30,'SCC',T36,'ALDE',
     1  T42,'ALDE   NOWT   NO2WT  ',10(A5,2X),/T3,'NO.  KEY',
     2  T18,'CODE',T29,'CODE',T36,'CODE ADJUST   (%)    (%)   ',
     3  10(A5,2X), /,
     4  T63, 2(A5, 2X), /,
     5  131('-'))


C--SET LINE COUNTER
c        LNCNT=11
        LNCNT=12

C--CHECK ITERATION
600     IF (IOST .EQ. 1 .OR. LNCNT .GT. MAX) GO TO 750



C--PRINT PROFILE CODES/SPLITS/ADJUSTMENTS AND WT PERCENTS
C
9                          5                          0
WRITE(IDEV9,700)ICARD,PKEY,SCPP,ISCC,HC,ADJUST,NOWPC,NO2WPC,
     1     PMFP
700    FORMAT(1X,I4,1X,A5,1X,A13,1X,A8,1X,A4,1X,3(F6.1,1X),
     1     10(F6.1,1X),/T62,10(F6.1,1X),/T62,10(F6.1,1X), /,
     2     T62, 2(F6.1,1X))

C--INCREMENT LINE COUNTER
        LNCNT=LNCNT+4

C--READ NEXT SCC RECORD
        IGO=2
        RETURN
```

FIGURE B-2. (Continued)

```
740      GO TO 600
750      GO TO 50

C--SET RETURN STATUS
800     IGO = 1
C--- WRITE MESSAGE TO USER ON FINAL OUTPUT
       WRITE (6,850) IDEV9
850    FORMAT(1X,'FINAL REPORT WRITTEN TO UNIT ', I3)
       WRITE (6,200)RUNDTE,RUNTIM,RUNDTE,RUNTIM,FLNAM,TITLE
          RETURN
          END
```

```
C***********************************************************
c--- modified by Ted Smith Dec. 27, 1987
c--- harded coded dimension 1800 in ARRAY replaced by variable
dimension
C--- THIS FILE WAS COPIED FROM UNIVAC ELEMENT AWGPSPLIT.LIST3A.
C*****************************************************
C**SUBROUTINE LIST3A
C*****************************************************

C**LIST3A WRITES TO A FILE AN ORGANIZED RECORD GROUP
C** COMPRISED OF HC PROFILE ID,SCC CARD NUMBER AND
C**  SCPP ID,ISCC ID, AND HC FIELD.  LIST3A IS
C**   CALLED BY LIST3B WHICH PRODUCES THE
C**     FINAL WRITTEN REPORT FOR THE USER.

        SUBROUTINE LIST3A(NREC,ARRAY,LREC,ALDEH,IDEV9)


C**VARIABLE DECLARATION
        CHARACTER*8 PKEY,OLD
        CHARACTER*16 SCPP
```

(continued)

FIGURE B-2. (Continued)

```
        CHARACTER*32 ARRAY(NREC)
        CHARACTER*4 ALDEH


        DATA MAJOR1,MAJOR2,MINOR1,MINOR2/23,27,14,21/


C**VARIABLE DESCRIPTION
C        ISCCNT  = SCC CARD COUNTER
C        EOF    = EOF INDICATOR
C        FNAME = NAME OF PRINTFILE
C        IOSTAT  = STATUS FLAG
C        IDEV  = UNIT NUMBER TO BE WRITTEN TO
C        PKEY  = HC DEFINITION CODE
C*****************************************************
C--FETCH STORED CARD IN SUBROUTINE TITLE

C--FETCH SORT KEYS IN DATA STATEMENT

C----------------------------------------------------
C--SORT ON SPECIFIED KEYS
         CALL SORT4 (NREC,ARRAY,LREC,MAJOR1,MAJOR2,MINOR1,MINOR2)

C----------------------------------------------------
C--READ FIRST CARD
         CALL RDCARD (ARRAY,SCPP,ISCC,PKEY,ALDEH,NREC,IOSTAT)
C
C--SET CONTROL STATUS
        IOSTAT=0
C-----------------------------------------------------
C    P R O C E S S   F I L E
C-----------------------------------------------------
C--CHECK CONDITIONS
 100     IF (IOSTAT .EQ. 1) GO TO 400

C--SET OLD PKEY
         OLD=PKEY

C--INITIALIZE SCC COUNTER
         ISCCNT=0
C-----------------------------------------------------
```

(continued)

FIGURE B-2. (Continued)

```
C P R O C E S S   P R O F I L E
C-------------------------------------------------------

C--CHECK CONDITIONS
 175     IF (PKEY .NE. OLD .OR.IOSTAT .EQ. 1) GO TO 350

 200     ISCCNT=ISCCNT+1

C--WRITE SCC RECORD
        CALL LIST3B (PKEY,ISCCNT,SCPP,ISCC,ALDEH,IOSTAT,IDEV9)


C--READ NEXT CARD
         CALL RDCARD (ARRAY,SCPP,ISCC,PKEY,ALDEH,NREC,IOSTAT)

 300     GO TO 175
 350     GO TO 100

C--WRITE EOF TO RECORD
400      IOSTAT=1

         CALL LIST3B (PKEY,ISCCNT,SCPP,ISCC,ALDEH,IOSTAT,IDEV9)


         RETURN
         END
c--- modified by Ted Smith Jan. 23, 1988
c--- increased format from I3 to I4 for NUMBER
c
C--- THIS FILE WAS COPIED FROM UNIVAC ELEMENT AWGPSPLIT.LIST3B. C
C************************
C SUBROUTINE LIST3B     *
C************************
C
C*************************************************
C SUBROUTINE LIST3B READS FILE AND PROCESSES WRITTEN
C  REPORT FOR USER. THE FORMAT OF WRITTEN REPORT IS
C   THAT OF:
C PAGE HEADER
C ---------
C ---------
C PROFILE HEADER
```

(continued)

FIGURE B-2. (Continued)

```
C ---------
C NUMBER:XX  SCPP CODE:XX  ISCC CODE:XX HC FIELD:XX
C NUMBER:XX  SCPP CODE:XX  ISCC CODE:XX HC FIELD:XX
C***************************************************
C
      SUBROUTINE LIST3B (PKEY,NUMBER,SCPP,ISCC,HC,IOSTAT,IDEV9)

C      INCLUDE NEROS*UTILITY1.PRID,LIST
C      INCLUDE '[AWG.PSPLIT]PROCS.TLB(PRID)/LIST'
       INCLUDE 'PRID.CBK/LIST'

C**VARIABLE DECLARATIONS
        CHARACTER*16 SCPP
C        CHARACTER*32 FNAME,FLNAM2
        CHARACTER*64 FNAME
        CHARACTER*8  OLD,PKEY
        CHARACTER*4 HC

        DATA MAX1/51/
        DATA MAX2/54/
         DATA IGO/1/
C*******************************************************
C** BEGIN PROGRAM EXECUTION
C*******************************************************
         GO TO (100,420),IGO
C--FETCH FILE FILENAME
C100     FNAME=FLNAM2(IDEV9)
100      CALL FLNAM2(IDEV9, FNAME)
C--FETCH CREATION DATE/TIME
C       CALL PROGID ('SCCDEF','82194')

C--READ SCC RECORD
C-------------------------------------------------------
C P R O C E S S   R E P O R T
C-------------------------------------------------------
150      IF (IOSTAT .EQ. 1) GO TO 500

C--INITIALIZE LINE COUNTER
         LNCNT=1

C--PRINT PAGE HEADER
         WRITE (IDEV9,200) RUNDTE,RUNTIM,RUNDTE,RUNTIM,FNAME
```

(continued)

FIGURE B-2. (Continued)

```
200    FORMAT ('1    **S C C PROFILE REPORT SORTED BY PROFILE
ID**',//
     1 1X,'FILE CREATION DATE/TIME:',1X,A6,'/',A6,1X,
     2 'DATE/TIME OF LISTING:',1X,A6,'/',A6,1X, /,
     3 ' NAME OF PRINTFILE:',1X,A64,///)

C--INCREMENT LINE COUNTER
         LNCNT=LNCNT+7
C-------------------------------------------------------
C P R O C E S S   P R O F I L E   G R O U P
C-------------------------------------------------------
250      IF (IOSTAT .EQ. 1 .OR. LNCNT .GE. MAX1) GO TO 475

C--SET OLD PKEY
         OLD = PKEY

C--INCREMENT LINE COUNTER
         LNCNT = LNCNT + 2
C--PRINT HYDROCARBON HEADER
         WRITE (IDEV9,300) PKEY
300   FORMAT (//,1X,'HYDROCARBON PROFILE ID:',1X,A5)

C--INCREMENT LINE COUNTER
         LNCNT = LNCNT + 1
C--------------------------------------------------------
C P R O C E S S  SCC  C O D E S
C--------------------------------------------------------
 350    IF (IOSTAT.EQ.1.OR.PKEY.NE.OLD.OR.LNCNT.GE.MAX2) GO TO 450


C--INCREMENT LINE COUNTER
        LNCNT = LNCNT + 1

C--WRITE HEADERS
        WRITE (IDEV9,400) NUMBER,SCPP,ISCC,HC
400   FORMAT (1X,I4,':',1X,'SCPP ID:',A13,4X,
     X 'SCC CODE:',1X,I8,4X,'HC ADJUSTMENT:',1X,A4)

C--READ NEXT CARD
         IGO = 2
         RETURN
```

(continued)

FIGURE B-2. (Continued)

```
420      GO TO 350
 450    GO TO 250
 475    GO TO 150
500    PRINT 550,IDEV9
550     FORMAT (1X,'REPORT FROM SCC PROFILE FILE WRITTEN TO
UNIT:',I3,/)


        RETURN
        END
c--- version 2A created by Ted Smith Dec.27, 1987
c--- maximum number of species over all classes increased from 500
to 640
c
c--- version 2A modified by Ted Smith Jan. 2, 1987
c--- maximum number of specie classes increased from 30 to 32
c
C--- THIS FILE WAS COPIED FROM UNIVAC ELEMENT AWGPSPLIT.LISTA.
      SUBROUTINE LISTA(SPNAM,ICL)
C--- ROUTINE PRINTS CLASS AND SPECIE REPORTS SORTED BY SAROAD
C    CODE ORDER.
      INCLUDE 'PARAMS_1A.CBK/LIST'
C---
C     INCLUDE NEROS*UTILITY1.PRID,LIST
C      INCLUDE '[AWG.PSPLIT]PROCS.TLB(PRID)/LIST'
      INCLUDE 'PRID.CBK/LIST'
C     INCLUDE LESLIE*LESLIE.BLK1,LIST
C      INCLUDE '[AWG.PSPLIT]PROCS.TLB(BLK1)/LIST'
      INCLUDE 'BLK1.CBK'
C     INCLUDE LESLIE*LESLIE.SPECIE,LIST
C      INCLUDE '[AWG.PSPLIT]PROCS.TLB(SPECIE)/LIST'
      INCLUDE 'SPECIE_2A.CBK/LIST'
C
C      CHARACTER*32 FTITLE,FLNAM2
      CHARACTER*64 FTITLE
      CHARACTER*40 SPNAM(MXCLSP)
      DIMENSION ICL(MXCLASS)
C---
      LINO=50
C      FTITLE=FLNAM2(IDEV9)
      CALL FLNAM2(IDEV9, FTITLE)
C--- SPECIE CLASS DEFINITION REPORT
```

(continued)

FIGURE B-2. (Continued)

```
C--- PAGE TITLE
      WRITE(IDEV9,110)
  110 FORMAT ('1    ** DEFINITION OF SPECIE CLASSES **    ',//)
      WRITE(IDEV9, 120)RUNDTE, RUNTIM, RUNDTE, RUNTIM,FTITLE
  120 FORMAT(1X, 'CREATION DATE/TIME OF FILE: ', A6, '/', A6,
     2       T46, 'DATE/TIME OF LISTING: ', A6, '/', A6,1X, /,
     3 1X, 'NAME OF PRINTFILE: ',A64)

C--- WRITE CHEMISTRY TITLE HEADER
      WRITE (IDEV9,125) TITLE1
125   FORMAT (/,1X,'CHEMISTRY TITLE:',1X,A60)

C--- COLUMN TITLE
      WRITE(IDEV9, 135)
  135 FORMAT(/,T6, 'NO.', T14, 'CLASS ID', T29, 'CLASS NAME', T44,

     2 'AVE MOL WT',T58,'NSPEC',/,T45,'(GMS/MOLE)',/T3,'------',
     2       T14,'------', T24,
     3       '----------------', T44, '----------',
     4        T58, '-----')
      I=1
  136 IF(I .GT. NCLASS)GO TO 139
      WRITE(IDEV9, 138)I, CLID(I), CLNAM(I), CLMW(I),ICL(I)
  138 FORMAT(3X, I4, T15, A5, T24, A16, 4X, F10.2,T59, I4)
      I=I+1
      GO TO 136
  139 CONTINUE
      ICARD=1
C--- SPECIE CLASS REPORT(ITER. OF PAGES)
  150 IF(ICARD .GT. NSPEC) GO TO 450
      LINE=1
      WRITE(IDEV9, 200)
  200 FORMAT('1    **  SPECIE CLASS REPORT SORTED BY SPECIE ',
     2       'CODE  **',//)
      WRITE(IDEV9, 120)RUNDTE, RUNTIM, RUNDTE, RUNTIM,FTITLE
C--- GET COLUMN HEADING
      WRITE(IDEV9, 250)
  250 FORMAT(T6, 'NO.', T13, 'SPECIE', T23, 'CLASS', T32,
     2       'CLASS ID', T45, 'CLASS NAME', T58, 'CLASS MW', T69,

     3       ' SPECIE MW',T81, '#SINGLE', T108, 'SPECIE NAME',/,
     4 T13,'CODE',T58,'(GMS/MOLE)',T71,'(GMS/MOLE)',T82,'BONDS')
```

(continued)

FIGURE B-2. (Continued)

```
      WRITE(IDEV9, 260)
  260 FORMAT(4X, ’------’, T12, ’--------’, T23, ’------’,
     1       T32, ’------’,
     2       T41, ’----------------’, T58, ’----------’, T70,
     3       ’----------’, T82, ’------’, T89,
     4       ’----------------------------------------’)
C--- PAGE BODY(ITER. OF SPECIE)
  270 IF(LINE .GT. LINO .OR. ICARD .GT. NSPEC)GO TO 350
      I=SPCLAS(ICARD)
      WRITE(IDEV9, 300)ICARD, SPCOD1(ICARD), I, CLID(I),
     2                 CLNAM(I), CLMW(I), SPMW1(ICARD),
     3                 NSB(ICARD), SPNAM(ICARD)
  300 FORMAT(T5, I4, 3X, A8, T24, I2, T33, A5, T41, A16, T60,
     2       2(F7.2, 3X), T80, I6, T89, A40)
      LINE=LINE+1
      ICARD=ICARD+1
      GO TO 270
  350 GO TO 150
  450 PRINT 500,IDEV9
  500 FORMAT(1X, ’SPECIE CLASS REPORT HAS BEEN PRINTED USING  ’,
     2       ’UNIT NO. ’, I4)
      RETURN
      END
```

```
c--- version 2A created by Ted Smith Dec. 27, 1987
c--- maximum number of species over all classes increase from 500
to 640
c--- version 2A modified by Ted Smith Jan. 23, 1988
c--- number of species per page reduced from 51 to 50
c
C--- THIS FILE WAS COPIED FROM UNIVAC ELEMENT AWGPSPLIT.LISTB.
      SUBROUTINE LISTB( SPCARD)
C--- ROUTINE PRINSTS SPECIE CLASS REPORT SORTED BY CLASS NO.
```

(continued)

FIGURE B-2. (Continued)

```
      INCLUDE 'PARAMS_1A.CBK/LIST'
C---
C     INCLUDE LESLIE*LESLIE.BLK1,LIST
C      INCLUDE '[AWG.PSPLIT]PROCS.TLB(BLK1)/LIST'
      INCLUDE 'BLK1.CBK/LIST'
C     INCLUDE LESLIE*LESLIE.SPECIE,LIST
C      INCLUDE '[AWG.PSPLIT]PROCS.TLB(SPECIE)/LIST'
      INCLUDE 'SPECIE_2A.CBK/LIST'
C     INCLUDE NEROS*UTILITY1.PRID,LIST
C      INCLUDE '[AWG.PSPLIT]PROCS.TLB(PRID)/LIST'
      INCLUDE 'PRID.CBK/LIST'
C---
      INTEGER OLDCLS
      CHARACTER*8 SPCOD3
C      CHARACTER*32 FTITLE,FLNAM2
      CHARACTER*64 FTITLE
      CHARACTER*40 SPNAM3
      CHARACTER*80 SPCARD(MXCLSP)
C---
C      FTITLE=FLNAM2(IDEV9)
      CALL FLNAM2(IDEV9, FTITLE)
      LINO=50
      N=NSPEC
C---
      OLDCLS=0
C--- REWIND CARD
C
C---
      CALL RDCOPY(SPCARD,SPCOD3,ICLAS3,SPMW3,NSB3,SPNAM3,N,IOSTAT)

C---
C--- PROCESS SPECIE CLASS REPORT(ITER. OF CLASS NO.)
  170 IF(IOSTAT .EQ. 1)GO TO 300
      OLDCLS=ICLAS3
      J=1
C--- PROCESS REPORT BODY(ITER. OF PAGE)
  180 IF(ICLAS3 .NE. OLDCLS .OR. IOSTAT .EQ. 1)GO TO 280
      I1=ICLAS3
C--- PRINT PAGE TITLE
      WRITE(IDEV9, 185)
  185 FORMAT ('1      **  SPECIE  CLASS  REPORT  SORTED  BY  CLASS
NO.**',//)
```

(continued)

FIGURE B-2. (Continued)

```
      WRITE(IDEV9, 190)RUNDTE, RUNTIM, RUNDTE, RUNTIM, FTITLE
  190 FORMAT(1X, 'CREATION DATE/TIME OF FILE: ', A6, '/', A6,
     2       T48, 'DATE/TIME OF LISTING: ', A6, '/', A6, /,
     3 1X,'NAME OF PRINTFILE:',A64)
C---
      WRITE(IDEV9, 205)I1, CLID(I1), CLNAM(I1), CLMW(I1)
  205 FORMAT(6X, 'CLASS NO.=', 1X, I2, 5X, 'CLASSID=', 1X, A5,
     2 4X, 'CLASS NAME=', 1X, A16, T75,'AVE.MOL.WT. (GMS/MOLE) =
',
     3       F10.2)
      LINE=0
      WRITE(IDEV9,242)
  242 FORMAT(/T6,'NO.',T13, 'SAROAD', T23, 'SPECIE MW', T35, '#
SINGLE',
     2       T63, 'SPECIE NAME',/,
     3 T13,'CODE',T24,'(GMS/MOLE)',T36,'BONDS')
      WRITE(IDEV9, 244)
  244 FORMAT(T5,'----', T12, '--------', T23, '----------', T36,
     2       '------', T45, '--------------------',
     3       '--------------------')
C--- PROCESS PAGE BODY(ITER. OF LINE)
  240 IF(LINE .GE. LINO .OR. ICLAS3 .NE. OLDCLS .OR. IOSTAT .EQ.
     2   1)GO TO 260
      LINE=LINE +1
      WRITE(IDEV9, 250) J, SPCOD3, SPMW3, NSB3, SPNAM3
  250 FORMAT(4X, I4, 3X, A8, 3X, F10.2, 3X, I6, 3X, A40)
C---
C--- DECODE THE NEXT CARD
      CALL RDCOPY(SPCARD,SPCOD3,ICLAS3,SPMW3,NSB3,SPNAM3,N,IOSTAT)

      J=J+1
      GO TO 240
  260 GO TO 180
  280 GO TO 170
  300 CONTINUE
C--- PRINT MESSAGE
      PRINT 320,IDEV9
  320 FORMAT(1X, 'SPECIE DEFINITION FILE HAS BEEN PRINTED ',
     2       'USING UNIT NUMBER ',I4,/)
C---
      RETURN
C
```

(continued)

FIGURE B-2. (Continued)

```
      END
```

```
c--- version 2A created by Ted Smith on Dec. 20, 1987
c--- maximum number of species per profile increased from 75 to 325
C--- THIS FILE WAS COPIED FROM UNIVAC ELEMENT AWGPSPLIT.LISTC.
      SUBROUTINE LISTC(IPR,PKEY1,NOWT1,NO2WT1,HCHOW1,REF1,COM1,
     1                ISP,SAROAD,SPECWT,SPECMW,SPNAM,IOST, WMMWT)
C--- ROUTINE READS  HYDROCARBON DEFINITION FILE FROM 'HCDEF'
C    AND WRITE IT OUT TO IDEV9 ONE RECORD AT A TIME.
      INCLUDE 'PARAMS_1A.CBK/LIST'
C---
C     INCLUDE LESLIE*LESLIE.PROFS,LIST
C      INCLUDE '[AWG.PSPLIT]PROCS.TLB(PROFS)/LIST'
      INCLUDE 'PROFS_2A.CBK/LIST'
C     INCLUDE NEROS*UTILITY1.PRID,LIST
C      INCLUDE '[AWG.PSPLIT]PROCS.TLB(PRID)/LIST'
      INCLUDE 'PRID.CBK/LIST'
C     INCLUDE LESLIE*LESLIE.BLK1,LIST
C      INCLUDE '[AWG.PSPLIT]PROCS.TLB(BLK1)/LIST'
      INCLUDE 'BLK1.CBK/LIST'
C---
      REAL*4 NOWT1, NO2WT1
      REAL*4 WMMWT
      CHARACTER*8 PKEY1, SAROAD,OLDPK
      CHARACTER*9 REF1
C      CHARACTER*32 FTITLE,FLNAM2
      CHARACTER*64 FTITLE
      CHARACTER*38 COM1
      CHARACTER*40 SPNAM
      DATA IGO/1/
C
```

(continued)

FIGURE B-2. (Continued)

```
      GO TO(10001, 10002, 10003, 10004),IGO
C---
C10001 FTITLE=FLNAM2(IDEV9)
10001 CALL FLNAM2(IDEV9, FTITLE)
      LINO1=50
      LINO=42
C--- PROCES REPORT BODY(ITER. OF PAGES)
  100 IF(IOST .EQ. 1)GO TO 400
C---
      LINE=1
C--- PAGE TITLE
      WRITE(IDEV9, 110)
  110  FORMAT  (’1      ** HYDROCARBON  PROFILE  REPORT  SORTED  BY
PROFILE’,
     1 ’ ID AND SAROAD CODE **’,//)
      WRITE(IDEV9, 120)RUNDTE, RUNTIM, RUNDTE, RUNTIM,FTITLE
  120 FORMAT(1X, ’CREATION DATE/TIME OF FILE: ’, A6, ’/’, A6,
     2       T36, ’DATE/TIME OF LISTING: ’, A6, ’/’, A6,1X, /,
     3 ’ NAME OF PRINTFILE: ’, A64)
      LINE=LINE + 6
C--- PROCESS OF PAGE BODY(ITER. OF PROFILE GROUP)
  200 IF(IOST .EQ. 1 .OR.  LINE .GT. LINO)GO TO 330
C--- SET OLD PROFILE KEY
      OLDPK=PKEY1
C--- PRINT TITLE PARMS
      WRITE(IDEV9, 210)IPR,PKEY1, NOWT1, NO2WT1, HCHOW1, REF1,
     2                 COM1
  210 FORMAT(/1X, ’IPR: ’, I4, 5X, ’PRKEY: ’, A5, T33, ’NO(%): ’,

     2       F5.2, T50, ’NO2(%): ’, F5.2, T68, ’HCHO(%): ’,
     3       F5.2,/T33, ’REF: ’, A9, T50, ’COMMENT: ’, A38/)
C---  PRINT COLUMN TITLE
      WRITE(IDEV9,220)
  220 FORMAT(T11, ’ISP’, T19, ’SAROAD’, T32, ’SPECIE WT’, T47,
     2       ’SPECIE MW’, T78, ’SPECIE NAME’,/T20,
     3 ’ CODE’,T35,’(%)’,T47,’(GMS/MOLE)’)
      WRITE(IDEV9, 230)
  230 FORMAT(T10, ’-----’, T19, ’------’, T30, ’----------’,
     2       T45, ’----------’,
     2       T60, ’----------------------------------------’)
      LINE=LINE+6
C--- PROCESS GROUP BODY(ITER. OF SPECIE)
```

(continued)

FIGURE B-2. (Continued)

```
C  300 IF(IOST .EQ. 1 .OR. LINE .GT. LINO1 .OR. PKEY1 .NE. OLDPK)
  300 IF(IOST .EQ. 1 .OR. LINE .GT. LINO1 .OR. WMMWT .GT. 0.0)
     2               GO TO 320
C--- PRINT SPECIE PARMS
      WRITE(IDEV9, 310)ISP, SAROAD, SPECWT, SPECMW, SPNAM
  310 FORMAT(T10, I4, T20, A5, T30, F10.2, T45, F10.2, T60, A40)
      LINE=LINE+1
C--- READ NEXT SPECIE RECORD
      IGO=2
      RETURN
C--- **********
10002 GO TO 300
C  320 GO TO 200
C--- print weighted mean molecular weight
320   WRITE (IDEV9, 325) WMMWT
325   FORMAT(T45, F10.2, T60, '(WEIGHTED MEAN MOLECULAR WEIGHT)')
      LINE = LINE + 1
C--- read first record of next profile
      IGO = 3
      RETURN
10003 CONTINUE
      GO TO 200
  330 GO TO 100
  400 CONTINUE
C---
      PRINT 410,IDEV9
  410 FORMAT(1X, 'HYDROCARBON DEFINITION FILE HAS BEEN PRINTED',
     2           ' OUT TO UNIT ',I3, ' BY ROUTINE "LISTC"')
      RETURN
C--- **********
10004 PRINT 420
  420 FORMAT(1X, 'ROUTINE TRIES TO READ OVER  CARD FILE,ERROR ',
     2       'HAPPENS IN "LISTC"')
      RETURN
C---
      END
```

FIGURE B-2. (Continued)

```
c--- version 2A created by Ted Smith on Dec. 20, 1987
c--- maximum number of species per profile increased from 75 to 325
c
c--- version 2A modified by Ted Smith Dec. 27, 1987
c--- maximum number of species over all classes increased from 500
to 640
c
c--- version 2A modified by Ted Smith Jan. 2, 1988
c--- maximum number of specie classes increased from 30 to 32
c
C--- THIS FILE WAS COPIED FROM UNIVAC ELEMENT AWGPSPLIT.CHEM.
C***************************************************
C** SUBROUTINE CHEM
C***************************************************

C**CALCULATES SPLITS FOR PSPLIT FILE

      SUBROUTINE CHEM (NSPECI,NOCLAS,SAROAD,ADJUST,SPMWG,
     1 SPWGPC,CLASS,SPNSB,JPROF,PMFP)

C**VARIABLE DECALARATIONS
       REAL MOLES,MOLEPC,MOLEFR,MW,MOLEWT,MOLPC1,MLWTSM,
     1  MLFRSM,MOLWT,MLPCNT,MOLFX1,MOLWT1,MF,PMFP,MF1

       CHARACTER*8 SAROAD
       INTEGER CLASS,SPENSB,SPCLAS,SPNSB


      INCLUDE 'PARAMS_1A.CBK/LIST'
      DIMENSION SPWGPC(NSPECI), PMFP(MXCLASS), MOLES(MXPRSP),
     1 SPMWG(NSPECI),
     1 MOLEPC(MXPRSP), MOLEFR(MXPRSP), NSP(MXCLASS),
     2 SPWTPC(MXPRSP,MXCLASS),
     2 SPMW(MXPRSP,MXCLASS),
     2 SPMLFR(MXPRSP,MXCLASS), CLWTPC(MXCLASS), CLMOLE(MXCLASS),
     2 CLAVMW(MXCLASS),
     3 SPNSB(NSPECI), ICLASS(MXPRSP), SPMOLE(MXPRSP,MXCLASS),
```

(continued)

FIGURE B-2. (Continued)

```
     4 SPENSB(MXPRSP,MXCLASS),
C      4 CLMLWT(30),CLMLPC(30),CLMLFR(30),CLASS(NOCLAS),
     4 CLMLWT(MXCLASS), CLMLPC(MXCLASS), CLMLFR(MXCLASS),
     5 CLASS(NSPECI),
     5 SPMLPC(MXPRSP,MXCLASS), MOLEWT(MXPRSP,MXCLASS),
     6 MOLWT(MXPRSP), SAROAD(MXPRSP)


C       INCLUDE LESLIE*LESLIE.PROFS,LIST
C       INCLUDE '[AWG.PSPLIT]PROCS.TLB(PROFS)/LIST'
        INCLUDE 'PROFS_2A.CBK/LIST'
C       INCLUDE LESLIE*LESLIE.SPECIE,LIST
C       INCLUDE '[AWG.PSPLIT]PROCS.TLB(SPECIE)/LIST'
        INCLUDE 'SPECIE_2A.CBK/LIST'
C       INCLUDE LESLIE*LESLIE.BLK1,LIST
C       INCLUDE '[AWG.PSPLIT]PROCS.TLB(BLK1)/LIST'
        INCLUDE 'BLK1.CBK/LIST'


        REAL*4 AMLFR, AAVMW
        NAMELIST/CHEM1/MOLES,MW,TMP1
        NAMELIST/CHEM2/MOLPC1,MOLFX1,MOLWT1,
      1  WTPC1,MLPCNT,FRXT,WTPCNT,IPROF
        NAMELIST/CHEM14/MLFRSM,CLAVMW,CLMLWT,CLMLFR,
      1 FRACT,FRACT1
        NAMELIST/CHEM15/CLAVMW,CLMLWT,CLMLFR,FRACT1

NAMELIST/CHEM4/MLWTSM,MLFRSM,CLAVMW,CLMLWT,CLMLFR,FRACT,ICLASS
        NAMELIST/CHEM6/X,PRWTPC
        NAMELIST/CHEM7/TMP2
        NAMELIST/CHEM8/TMP1,TMP2
        NAMELIST/CHEM9/PRMLWT,PRMLFR,PRMLPC
        NAMELIST/CHEM10/X,PRMLFR
        NAMELIST/CHEM11/X,PRMLPC
        NAMELIST/CHEM12/PRAVMW

C**VARIABLE INPUTS INTO CHEM
C**WTPC   =ARRAY CONTINING WEIGHT PERCENT OF EACH SP. IN PROF
C**SPMWG  =ARRAY CONTAINING MOLECULAR WEIGHT OF EACH SP.IN PROF
C**JPROF  =PROFILE ID
C**CLASS  =CLASS ID
C**PMFP   =ARRAY CONTAINING THE OUTPUT OF "CHEM",PROF MOLE FAC %
```

(continued)

TABLE G-2. (continued)

SCC	PROFILE
50100508	90001
50100510	42320
50100511	90001
50100512	90001
50100601	90001
50100602	90001
50100603	90001
50100604	42320
50100701	90001
50100702	90001
50100703	90001
50100704	90001
50190005	0
50190006	0
50190010	0
50200101	90001
50200102	90001
50200103	90001
50200104	17106
50200105	42320
50200201	42320
50200202	90001
50200301	90001
50200302	90001
50200505	90001
50200506	17120
50200601	90001
50200602	90001
50200901	90001
50290005	0
50290006	0
50290010	0
50300101	90001
50300102	90001
50300103	90001
50300104	90001
50300105	42320
50300106	42320
50300107	90001
50300108	90001
50300109	90001
50300201	42320
50300202	90001
50300203	90001
50300204	90001
50300501	90001
50300506	17120
50300601	90001
50300602	90001
50300603	90001
50300701	90001
50300801	90001
50300810	90001
50300820	90001
50300901	90001
50390005	0

TABLE G-3. ADDITIONS TO POINT SOURCE SCC-PROFILE ASSIGNMENTS FOR CANADA

SCC	PROFILE	SCC	PROFILE
10100104	11201	30610099	90014
10200692	26101	30700194	90015
10200693	26101	30700196	90015
10201499	13501	30700201	0
10299999	0	30700208	0
20100291	34001	30700209	0
20100292	34001	30700210	0
20200292	34001	30900360	90016
30102299	90002	31000306	0
30102702	90002	35001001	0
30102703	90002	40300000	0
30103005	90002	40301999	0
30300191	29101	50100103	17106
30300192	29101	50100504	90001
30300799	28401	50300199	90001
30300905	90004	30102799	0
30501991	90013	30300099	0
30600195	26101	30700399	0
30600299	26202	31000999	0

TABLE G-4. TSP SCC-PROFILE ASSIGNMENTS, U.S. AREA SOURCES

Source Category	Profile Assignment	Source Category	Profile Assignment	Source Category	Profile Assignment
1	11201	51	13501	103	0
2	43201	52	31102	104	0
3	13501	54	0	105	90002
4	13501	55	41220	106	90002
5	26101	56	41220	107	90016
6	42330	57	41350	108	90013
7	11201	58	41350	109	90001
8	11201	59	41350	110	33020
9	13501	60	42320	111	32101
10	13501	61	42320	112	34002
11	26101	62	42320	113	41130
12	12704	63	43302	114	43101
13	11201	64	42320	115	43301
14	11201	66	0		
15	11201	67	0		
16	13501	68	0		
17	13501	69	90003		
18	26101	70	90003		
19	12704	71	90003		
20	26101	72	90003		
21	17106	73	90003		
22	17106	74	90003		
23	17106	75	90003		
24	42320	76	90003		
25	42320	77	41350		
26	42320	78	0		
27	31230	79	0		
28	31230	80	0		
29	31230	81	0		
30	31230	82	0		
31	31230	83	0		
32	31230	84	0		
33	31230	85	0		
34	31230	86	0		
35	31102	87	0		
36	31102	88	0		
37	31102	89	0		
38	31102	90	0		
39	31230	91	0		
40	32202	92	0		
41	32202	93	0		
42	32202	94	0		
43	32202	95	0		
44	32101	96	11201		
45	32202	97	11501		
46	34001	98	26101		
47	34001	99	90016		
48	34001	100	90001		
49	11201	101	0		
50	32202	102	0		

TABLE G-5. TSP SCC-PROFILE ASSIGNMENTS, CANADA AREA SOURCES

Source Category	Profile Assignment
11100	26101
11200	26101
11300	13501
11400	43201
11510	13501
11520	13501
11610	42330
11620	42330
11630	42330
11640	42330
12100	26101
12200	26101
12300	13501
12400	11201
12510	13501
12520	13501
13100	26101
13200	26101
13300	13501
13400	11201
13510	13501
13520	13501
14100	26101
14200	11501
14300	11501
14400	32202
21000	31230
21100	31230
21150	31230
21200	31102
21300	32101
21400	32202
22100	31230
22140	31230
22210	32202
22220	32202
22230	32202
22240	32202
22250	32202
22260	32202
22270	32202
23110	34001
23120	34001
23130	34001
23140	34001
23150	34001
23210	34001
23230	34001
23240	34001
23250	34001
24100	32202
25110	32202
25120	32202
25210	32202
25220	32202
25310	31102
26100	34002
26200	34002
27110	00000
27111	00000
27120	00000
27130	00000
27140	00000
27150	00000
27160	00000
31300	17106
31500	17106
32100	17106
33100	42301
41110	41130
41120	41130
42110	41220
42120	41220
42210	41220
42220	41220
42310	41220
42320	41220
43100	41350
43200	41350
44000	90001
45100	41350
45200	41350
45300	41350
45400	41350
45500	41350
46100	41350
47100	42320
47200	42320
51000	90002
52110	33020
52120	90014
53110	90012
53120	90012
53200	21204
53210	21204
53220	21204
53300	21204
53410	90006
53430	90006
53440	90006
53450	90006
53500	90007
53611	90007
53612	90007
53613	90007
53614	90007
53615	90007
53621	90007
53622	90008
53623	90008
53624	90008
53625	90008
53626	90008
53627	90008
53628	90008
53631	90008
54100	00000
54200	00000
55100	00000
55200	00000
56000	00000
57100	22201
57200	22301
57300	22101
57400	22201
61110	21401
61120	21401
61130	21401
61140	21401
61150	21401
61160	21401
61210	21401
61220	21401
61230	21401
61240	21401
61310	21401
61320	21401
61330	21401
61340	21401
61410	21401
61420	21401
61430	21401
64000	90003
64100	25404
65000	00000
66100	90003
66200	90003
66300	90003
70000	00000
71000	00000
77000	00000
78200	00000
81000	00000
85100	28201
85200	28202
85300	28304

FIGURE B-2. (Continued)

```
C**NSPECI =NO OF SPECIES IN SPECIFIED PROFILE
C**NOCLAS =NO OF CLASSES IN SPECIFIED PROFILE
C**CLASS  =CLASS OF SPECIFIED SPECIE IN PROFILE
C**SPNSB  =NO OF SINGLE CARBON BONDS OF SPECIE
C
C**VARIABLES USED WITHIN "CHEM" SUBROUTINE
C** MOLES  =ARRAY CONTAINING CALCULATION OF MOLES OF SP IN PROF
C** MOLEPC =ARRAY CONTAINING CALCULATION OF MOLE PERCENT OF SP IN
PROF
C** CLWTPC =ARRAY CONTAINING CALCULATION OF WEIGHT PERCENT OF CLASS
IN PROFILE
C** CLMOLE =ARRAY CONTAINING CALCULATION OF MOLES OF CLASS IN PROF

C** CLMLPC =ARRAY CONTAINING CALCULATION OF MOLE PERCENT OF CLASS
IN PROFILE
C** CLMLWT =ARRAY CONTAINING CALCULATION OF MOLE WEIGHT OF CLASS
IN PROFILE
C** CLMLFR =ARRAY CONTAINING MOLE FRACTION OF CLASS IN PROFILE
C** CLAVMW  =ARRAY CONTAINING AV.MOLECULAR WEIGHT OF CLASS IN PROF

C** PRAVMW  =AVERAGE MOLECULAR WEIGHT OF PROFILE
C** PRWTPC  =WEIGHT PERCENT OF PROFILE
C** PRMLWT  =MOLE WEIGHT OF PROFILE
C** PRMLPC  =PROFILE MOLE PERCENT
C** PRMLFR  =PROFILE MOLE FRACTION

C** 2 DIMENSIONAL ARRAYS USED IN "CHEM
C** SPWTPC =WEIGHT PERCENT OF SPECIE I IN PROFILE J
C** SPMW   =MOLECULAR WEIGHT OF SPECIE I IN CLASS J
C** SPMLFR =MOLE FRACTION OF SPECIE I IN CLASS J

C** NSP    =NUMBER OF SPECIES IN EACH CLASS J
C** CLID   =CLASS IDENTIFICATION NUMBER
C** TMP1   =TOTAL MOLES IN PROFILE CALCD BY SPECIE BY SPECIE
C** TMP2   =TOTAL MOLES IN PROFILE CALCD CLASS BY CLASS

C----------------------------------------------------------
C** BEGIN PROGRAM EXECUTION
C----------------------------------------------------------
C
C--WRITE HEADER TO UNIT 15
C
```

(continued)

FIGURE B-2. (Continued)

```
      WRITE(IDEV15,25)
25    FORMAT(T1,'***** CLASS AVMW BY PROFILE *****',/)
      WRITE(IDEV15,30)
30     FORMAT(T4,'PROFILE',T18,'CLASS 1',T28,'CLASS 2',T38,'CLASS
3',
     $       T48,'CLASS 4',T58,'CLASS 5',T68,'CLASS 6',T78,'CLASS
7',
     $        T88,'CLASS 8',T98,'CLASS 9',T108,'CLASS 10')
C
C--TRANSFER ARGUEMENTS INTO LOCAL ARRAYS FOR NAMELIST
       DO 50 I=1,NSPECI
       ICLASS(I)=CLASS(I)
50      CONTINUE

       IPROF=JPROF

C*** PART I ---CALCULATE MOLE PERCENT OF EACH SPECIE

C--SET TMP EQUAL TO 0
       STMP=0

C***PART I:STEP 1-CALCULATE MOLES
       DO 100 I=1,NSPECI

       MOLES(I)=SPWGPC(I)/SPMWG(I)

C***PART I:STEP 2-ACCUMILATE TMP
       STMP=STMP+MOLES(I)
100    CONTINUE


C--STORE STMP
       TMP1=STMP


C--CLEAR ACCUMILATORS
       MOLPC1=0
       MOLFX1=0
       MOLWT1=0
       WTPC1 =0
       MLPCNT=0
       FRXT  =0
```

(continued)

FIGURE B-2. (Continued)

```
      WTPCNT=0

C***PART I:STEP 3-CALCULATE MOLE PERCENT OF PROFILE SPECIE
      DO 140 I=1,NSPECI

      MOLEFR(I)=MOLES(I)/TMP1

      MOLWT(I)=SPMWG(I)*MOLEFR(I)

      MOLEPC(I)=MOLEFR(I)*100.0

C--ACCUMILATE MOLE PERCENT OF ALL SPECIES IN PROFILE
          MOLPC1=MOLPC1+MOLEPC(I)

C--ACCUMILATE MOLE FRACTION OF PROFILE
          MOLFX1=MOLFX1+MOLEFR(I)

C--ACCUMILATE MOLE WEIGHTS OF PROFILE
          MOLWT1=MOLWT1+MOLWT(I)

C--ACCUMILATE WEIGHT PERCENT OF PROFILE
          WTPC1=WTPC1+SPWGPC(I)


140   CONTINUE

C--WRITE VALUES TO INTERMEDIATE FILE
      WRITE (IDEV13,115)
115   FORMAT
(1X,'---------------------------------------------')
       DO 147 N=1,NSPECI
      WRITE (IDEV13,120) SAROAD(N),CLASS(N), MOLES(N),SPWGPC(N),

     1 SPMWG(N),MOLEFR(N),MOLWT(N),MOLEPC(N)
120   FORMAT
(1X,'SRD',1X,A6,1X,'CLASS',1X,I3,1X,'MOLES',1X,F9.5,1X,
     1 ' WGT-PCT',1X,F9.5,1X,
     2 ' MW',1X,F9.5,
     3   1X,'MOLE-FRX',1X,F9.5,1X,
     4 ' MOLE-WT',1X,F9.5,1X,'MOLE-PCT',1X,F9.5)
```

FIGURE B-2. (Continued)

```
147      CONTINUE
        WRITE (IDEV13,148) TMP1
148     FORMAT (1X,'TOTAL MOLES IN PROFILE (SPECIES)',1X,F6.3)

C--CHECK MOLE PERCENT,MOLE FRACTION,AND WEIGHT PCNT OF PROFILE

        MLPCNT = ABS(100.00-MOLPC1)
        FRXT   = ABS(1.000-MOLFX1)
        WTPCNT = ABS(100.0-WTPC1)
C
C--CHECK MOLE PERCENT,MOLE FRACTION,AND WEIGHT PCNT OF PROFILE

C--MOLE PERCENT
        IF(MLPCNT .GT. 1.0) THEN
         WRITE (IDEV13,150) IPROF
 150    FORMAT(1X,'*ERROR  FLAG!*INVALID  MOLE  PERCENT  VALUE  OF
ACCUMILATED
      1SPECIES IN PROFILE',1X,I4)

        PRINT 175,IPROF
175      FORMAT (1X,'*ERROR FLAG! IN ROUTINE CHEM PART I,STEP 3*
INVALID M
      1OLE PERCENT OF ACUUMILATED SPECIES IN PROFILE',1X,I4)
         PRINT CHEM2

        END IF

C--MOLE FRACTION
        IF (FRXT .GT. .001) THEN
         WRITE (IDEV13,185)IPROF
185     FORMAT  (1X,'*ERROR FLAG!*INVALID  MOLE  FRACTION  VALUE  OF
ACCUMILATE
      1D SPECIES IN PROFILE',1X,I4)

         PRINT 195,IPROF
195      FORMAT  (1X,'*ERROR  ABORT  IN  ROUTINE  CHEM,PART  I,STEP
2,INVALID MOL
      1E FRACTION OF ACCUMILATED SPECIES IN PROFILE',1X,I4)

         PRINT CHEM2

        END IF
```

(continued)

FIGURE B-2. (Continued)

```
C--WEIGHT PERCENT
       IF (WTPCNT .GT. .50) THEN
        WRITE (IDEV13,197)IPROF
197      FORMAT (1X,'*ERROR FLAG!*INVALID WEIGHT PERCNT VALUE OF
ACCUMILA
     1TED SPECIES IN PROFILE',1X,I4)

        PRINT 198,IPROF
198    FORMAT(1X,'*ERROR FLAG! IN ROUTINE CHEM PART I,STEP 3,
INVALID WEI
     1GHT PERCENT OF ACCUMILATED SPECIES IN PROFILE',1X,I4)
        PRINT CHEM2

       END IF


C**************END OF PART I**********************

C--WRITE VALUES TO INTERMEDIATE FILE
       WRITE (IDEV13,203)
203    FORMAT
(1X,'---------------------------------------------')
       WRITE (IDEV13,CHEM2)

C--SPLIT PROFILE INTO CLASSES
                                                        CALL
MERGE(NSPECI,NOCLAS,SPMWG,SPWGPC,SPNSB,MOLES,MOLEPC,ICLASS,
     1  MOLWT,MOLEFR,NSP,SPWTPC,SPMW,SPMOLE,SPENSB,SPMLPC,SPMLFR,

     2  MOLEWT)

C--WRITE USER MESSAGE
        WRITE (IDEV13,210)
210    FORMAT
(1X,'-------------------------------------------')
       WRITE(IDEV13,204)
204    FORMAT(/1X,'THESE VALUES ARE TWO DIMENSIONAL ARRAYS')

C--WRITE VALUES RETURNED INTO INTERMEDIATE FILE2
      DO 215 M=1,NOCLAS
```

(continued)

FIGURE B-2. (Continued)

```
      WRITE (IDEV13,199) M,NSP(M)
 199  FORMAT (1X,'CLASS',1X,I3,1X,'HAS',1X,I3,1X,'SPECIES')

     DO 202 N=1,NSP(M)
      WRITE (IDEV13,201) SPWTPC(N,M),SPMW(N,M),SPMOLE(N,M),
    1 SPENSB(N,M),SPMLPC(N,M),SPMLFR(N,M),MOLEWT(N,M)
201   FORMAT(1X,'WGHT-PCNT',1X,F9.5,1X,
    1 ' MW',1X,F9.5,1X,'MOLES',1X,F9.5,1X,
    2 ' NSB',1X,I3,1X,'MOLE-PCNT',1X,F9.5,1X,
    3 ' MOLE-FR',1X,F9.5,1X,'MOLE-WT',1X,F9.5)
202  CONTINUE

215   CONTINUE

C--SET ACCUMILATORS EQUAL TO ZERO
      FRACT=0

C--CALULATE AVERAGE MOLECULAR WEIGHT OF EACH CLASS IN PROFILE
      DO 310 J = 1,NOCLAS
      MLWTSM = 0
      MLFRSM = 0
      DO 300 I = 1,NSP(J)

C***PART II--CALCULATE AVERAGE MOLECULAR WEIGHT OF CLASS IN PROFILE


C***PART II:STEP 1-CALCULATE MOLE WEIGHTS PER SPECIE IN CLASS
C***  MOLEWT CALCULATED IN PART I *****

C***PART II:STEP 2-ACCUMILATE MOLE WEIGHTS
      MLWTSM=MLWTSM+MOLEWT(I,J)

C***PART II:STEP 3-ACCUMILATE MOLE FRACTIONS
      MLFRSM=MLFRSM+SPMLFR(I,J)

300   CONTINUE

C--TRANSFER LOCAL VARIABLES INTO CLASS ARRAYS
        CLMLFR(J)=MLFRSM
        CLMLWT(J)=MLWTSM

C***PART II:STEP 4-COMPUTE AVMW PER CLASS IN PROFILE
```

(continued)

FIGURE B-2. (Continued)

```
C       CLAVMW(J)=CLMLWT(J)/CLMLFR(J)
C--- VAX DOES NOT ALLOW DIVIDE BY ZERO WHICH WILL OCCUR FOR CLASSES
C---    NOT USED
       AMLFR=CLMLFR(J)
       IF((AMLFR.LT.0.0) .OR.(AMLFR.GT.0.0)) THEN
        CLAVMW(J)=CLMLWT(J) / AMLFR
       ELSE
        CLAVMW(J)=0.0
       ENDIF

C****************END OF PART II**********************


C--SUM MOLE FRACTION OF EACH CLASS ENTRY IN PROFILE
       FRACT=FRACT+CLMLFR(J)
310    CONTINUE


C--CHECK MOLE FRACTION OF EACH CLASS
       FRACT1=ABS(1.0-FRACT)

       IF (FRACT1 .GT. .001) THEN
        WRITE (IDEV13,325)IPROF
325      FORMAT (1X,'*ERROR FLAG!*INVALID MOLE FRACTION VALUE OF
CLASS IN
     1 PROFILE',1X,I4)

        PRINT 350,IPROF
350   FORMAT (1X,'*ERROR FLAG! IN ROUTINE CHEM*SECTION II** MOLE
FRACTIO
     1N VALUE INVALID FOR CLASS IN PROFILE',1X,I4)

        PRINT CHEM15

       END IF


C***PART III--CALCULATE/ACCUMILATE WEIGHT PERCENT OF CLASS IN PROF

C***PART III:STEP 1-ACCUMILATE WEIGHT PERCENT

C-CLEAR PROFILE WEIGHT PERCENT ACCUMILATOR
```

FIGURE B-2. (Continued)

```
         PRWTPC=0

        DO 600 J=1,NOCLAS

C--CLEAR WT PERCENT ACCUMILATOR
         WTPCSM=0

        DO 500 I=1,NSP(J)

        WTPCSM=WTPCSM+SPWTPC(I,J)

500     CONTINUE

C--STORE WEIGHT PERCENT OF CLASS
        CLWTPC(J)=WTPCSM

C--STORE PROFILE WEIGHT PERCENT
        PRWTPC=PRWTPC+CLWTPC(J)

600     CONTINUE
C*************END OF PART III *****************************


C--CHECK PROFILE WEIGHT PERCENT
        X=ABS(100.0-PRWTPC)

        IF (X .GT. 2.0) THEN
         WRITE (IDEV13,625)IPROF
625     FORMAT (1X,'*ERROR FLAG!*INVALID PROFILE WEIGHT PERCENT IN
PROFILE
     1',1X,I4)

         PRINT 650,IPROF
650     FORMAT(1X,'*ERROR FLAG! IN ROUTINE CHEM**SECT III**INVALID
PROFILE
     1 WEIGHT PERCENT IN PROFILE',1X,I4)

         PRINT CHEM6

        END IF
```

(continued)

FIGURE B-2. (Continued)

```
C--SET CLTMP EQUAL TO ZERO
       CLTMP=0

C***PART IV--CALCULATE PROFILE MOLE PERCENT VALUES
C**PART IV:STEP 1-CALCULATE MOLES OF EACH CLASS
       DO 700 J=1,NOCLAS
C       CLMOLE(J)=CLWTPC(J)/CLAVMW(J)
C--- THE VAX DOES NOT ALLOW DIVIDE BY ZERO WHICH WILL OCCUR FOR
UNUSED CLASSES
        AAVMW=CLAVMW(J)
        IF ((AAVMW.LT.0.0) .OR. (AAVMW.GT.0.0)) THEN
         CLMOLE(J)=CLWTPC(J) / AAVMW
         ELSE
         CLMOLE(J)=0.0
         ENDIF
C--ACCUMILATE TMP
       CLTMP=CLTMP+CLMOLE(J)

700    CONTINUE

C--STORE MOLES IN PROFILE
       TMP2=CLTMP

C--WRITE VALUES TO INTERNAL FILE
       WRITE (IDEV13,CHEM7)



C--GET DIFFERENCE OF TOTAL MOLE IN PROFILE VALUES
        TLMP=ABS(TMP1-TMP2)

C--CHECK TMP OF PROFILE
       IF (TLMP .GT. .01) THEN
        WRITE (IDEV13,725)IPROF
725     FORMAT (1X,'*ERROR FLAG!*INVALID TOTAL MOLES PROFILE VALUE
IN PR
     1OFILE',1X,I4)

        PRINT 750,IPROF
750    FORMAT (1X,'*ERROR FLAG! IN ROUTINE CHEM**SECT IV**INVALID
TMP VAL
```

(continued)

FIGURE B-2. (Continued)

```
     1UE IN PROFILE',1X,I4)

        PRINT CHEM8

       END IF

C--CLEAR PROFILE ACCUMILATORS
         PRMLWT=0
         PRMLFR=0
         PRMLPC=0

C***PART IV:STEP 2--CALCULATE MOLE PERCENT OF EACH CLASS IN PROFILE

        DO 800 J=1,NOCLAS

        CLMLPC(J) =(CLMOLE(J)/TMP1)*100

C****************END OF PART IV *****************************

C--CALCULATE MOLE WEIGHT OF CLASS IN PROFILE
         CLMLWT(J) = CLAVMW(J)*CLMLFR(J)


C***PART V*******CALCULATE PROFILE AVMW
C***PART V:STEP 1--CALCULATE/ACCUMILATE PROFILE MOLE WEIGHT
         PRMLWT=PRMLWT+CLMLWT(J)

C--ACCUMILATE MOLE FRACTIONS OF CLASS IN PROFILE
         PRMLFR=PRMLFR+CLMLFR(J)

C--ACCUMILATE MOLE PERCENTS OF CLASSES IN PROFILE
         PRMLPC=PRMLPC+CLMLPC(J)


800      CONTINUE

C--WRITE VALUES TO INTERMEDIATE FILE2
C--WRITE MESSAGE TO USER
         WRITE (IDEV13,801)
801     FORMAT (1X,'-----------------------------------------')
```

(continued)

FIGURE B-2. (Continued)

```
       WRITE (IDEV13,802)
802     FORMAT(/1X,'CLASS VALUES FOR PROFILE LISTED BELOW')

C--WRITE CLASS MW FOR PROFILE TO DEVICE 15
C
      WRITE(IDEV15,803)IPROF,(CLAVMW(J),J=1,NOCLAS)
803   FORMAT(T1,I10,T15,10(F10.2))
C
C--WRITE VALUES TO INTERMEDIATE FILE2
       DO 812 M=1,NOCLAS
       WRITE (IDEV13,805) M,CLMOLE(M),CLWTPC(M),
     1 CLMLFR(M),CLMLWT(M),CLAVMW(M),CLMLPC(M),CLMLWT(M)
805    FORMAT (1X,'CLASS',1X,I3,1X,'MOLES',1X,F9.5,1X,
     1 ' WT-PCT',1X,F9.5,1X,'MOLE-FXT',1X,F9.5,1X,/
     2  ' MOLE-WT',1X,F9.5,1X,'AVMW',1X,F9.5,1X,
     3  ' MOLE-PCT',1X,F9.5,1X,'MOLE-WT',1X,F9.5,1X)
812    CONTINUE

C--CHECK PROFILE MOLE FRACTION VALUE
         X=ABS(1.0-PRMLFR)

      IF (X .GT. .001) THEN
       WRITE (IDEV13,825)IPROF
825    FORMAT (1X,'*ERROR FLAG!*INVALID PROFILE MOLE FRACTION IN
PROFILE
     1',1X,I4)

       PRINT 850,IPROF
850   FORMAT (1X,'*ERROR FLAG! IN ROUTINE CHEM SECTION IV* INVALID
PROF
     1ILE MOLE FRACTION IN PROFILE',1X,I4)

       PRINT CHEM10

      END IF

C--CHECK PROFILE MOLE PERCENT VALUE
      X = ABS (100.0-PRMLPC)

      IF (X .GT. .01) THEN
       WRITE (IDEV13,875)IPROF
875   FORMAT (1X,'*ERROR FLAG!*INVALID PROFILE MOLE PERCENT VALUE
```

(continued)

```
IN PRO
     1FILE',1X,I4)

       PRINT 890,IPROF
890    FORMAT (1X,'*ERROR ABORT IN ROUTINE CHEM SECT IV* INVALID
MOLE PE
     1RCENT VALUE IN PROFILE',1X,I4)

       PRINT CHEM11

      END IF


C***PART V:STEP 2--CALCULATE PROFILE AVMW
       PRAVMW = PRMLWT/PRMLFR

C--CLEAR PROFILE MOLE FACTOR ACCUMILATOR
           PMF=0


C*****************END OF PART V*************

C--WRITE VALUES TO INTERMEDIATE FILE
       WRITE (IDEV13,894)
8      9      4             F      O      R      M      A      T
(1X,'---------------------------------------------------')
       WRITE (IDEV13,895)
895    FORMAT(/1X,'PROFILE VALUES LISTED BELOW')
C
       WRITE (IDEV13,896) PRMLWT,PRMLFR,PRMLPC,PRAVMW
896    FORMAT(1X,'MOLE-WT',1X,F9.5,1X,'MOLE-FR',1X,F9.5,1X,
     1 ' MOLE-PCT',1X,F9.5,1X,'AVMW PROFILE',1X,F9.5,1X)
C
       WRITE (IDEV13,813) X,PRWTPC
813    FORMAT(1X,'X VALUE OF ABSOLUTE',1X,F11.8,
     1 ' PROFILE WEIGHT PERCENT',1X,F12.8)

C***PART VI******CALCULATE PROFILE MOLE FACTOR PERCENTS
       DO 900 J=1,NOCLAS

       MF = (CLMLFR(J)/PRAVMW)*(100000.)
C
```

FIGURE B-2. (Continued)

```
C--MAKE FINAL ADJUSTMENT FOR PMFP

      MF1=(MF*100.0)/(100.0-ADJUST)
C
C--ACCUMILATE EACH PMF
      PMFP(J)=MF1

900   CONTINUE

C--WRITE VALUES TO INTERMEDIATE VILE
      DO 910 M=1,NOCLAS
      WRITE (IDEV13,902) M,PMFP(M)
902   FORMAT (1X,'CLASS',1X,I3,1X,'PROFILE MOLE FACTOR',1X,
     1 F13.8,' IN MOLES PER KILOGRAM (SCALED)')

910   CONTINUE



      RETURN
      END
```

```
C*********************************************************
C--- THIS FILE WAS COPIED FROM UNIVAC ELEMENT AWGPSPLIT.LISTB.
                         S   U   B   R   O   U   T   I   N   E
RDCOPY(SPCARD,SPCOD3,ICLAS3,SPMW3,NSB3,SPNAM3,N,IOSTAT)
C--- ROUTINE PRETENDS TO DO THE READ AND WRITE ONE RECORD
C    AT A TIME AND SET EOF MARK AT THE END OF THE PROCESS.
C--- RDCOPY USED FOR SUBROUTINE LISTB.
C
```

(continued)

FIGURE B-2. (Continued)

```
C--- modified by Jeff Layman, Feb. 27, 1989.
c--- changed declaration: SPCARD(500) to SPCARD(N) to allow for
c--- an increasing number of cards to be read in.
c
      CHARACTER*8 SPCOD3
      CHARACTER*40 SPNAM3
      CHARACTER*80 SPCARD(N)
      DATA IGO/1/
      GO TO (10001, 10002, 10003),IGO
C--- INITIATE CARD COUNT
10001 ICARD=1
      IOSTAT=0
C--- PROCESS CARD FILE(ITER. OF CARD)
  100 IF(ICARD .GT. N)GO TO 200
      READ(SPCARD(ICARD), 150)SPCOD3, ICLAS3, SPMW3, NSB3, SPNAM3

  150 FORMAT(A5, T9, I2, F10.2, I5, T31, A40)
      IGO=2
      RETURN
C
C--- WRITE RECORD
C
10002 ICARD=ICARD+1
      GO TO 100
C--- WRITE CARD RECORDS EOF
C
  200 IOSTAT=1
      IGO=3
      RETURN
C
C---
10003 PRINT 300
  300 FORMAT(1X, '*** ROUTINE TRIES TO READ OVER CARD FILE ',
     2           'ERROR APPEARS IN "RDCOPY" ')
C
      RETURN
      END
c--- modified by Ted Smith Dec. 27, 1987
c--- hardcoded dimension value 1800 in ARRAY replaced by variable
c--- decode statement replaced by READ
C--- THIS FILE WAS COPIED FROM UNIVAC ELEMENT AWGPSPLIT.LIST3A.
C************************************************************
```

FIGURE B-2. (Continued)

```
C*SUBROUTINE RDCARD *
C*****************************************************
C   THIS SUBROUTINE IS USED IN EXAMPLES OF PROGRAM
C INVERSION. IT WILL EXECUTE PIECEMEAL UNTII THE FILE
C FROM WHICH IT IS FEEDING IS EXHAUSTED. NOTE DOCUMENTATION
C FOR FURTHER CLARIFICATION.

       SUBROUTINE RDCARD(ARRAY,SCPP,ISCC,PKEY,ALDEH,NREC,IOSTAT)

       CHARACTER*8 PKEY
       CHARACTER*16 SCPP
C       CHARACTER*32 ARRAY(1800)
       CHARACTER*32 ARRAY(NREC)
       CHARACTER*4 ALDEH

C**VARIABLE DESCRIPTION
C   IOSTAT = STATUS VARIABLE-TELLS USER IF EXECUTION OCCURED
C    IGO =  STATE VARIABLE -TELLS PROGRAM WHERE TO BEGIN NEXT
EXECUTION

         DATA IGO/1/
         GO TO  (100,390),IGO

C**SET ISCCNT AND STATE VARIABLE APPROPRIATELY IF STATUS OK
100      ICARD=1
         IOSTAT=0

C**CHECK ICARD IF NOT GT CONTINUE EXECUTION
300      IF (ICARD .GT. NREC) GO TO 400
C       DECODE(32,375,ARRAY(ICARD)) SCPP,ISCC,PKEY,ALDEH
       READ (ARRAY(ICARD), 375) SCPP,ISCC,PKEY,ALDEH
375    FORMAT (A13,I8,1X,A5,A4)
          IGO=2

C**WITH NEXT PASS THIS WILL START AT 390
            RETURN
C**INCREMENT COUNTER AND RETURN
390     ICARD=ICARD+1
       GO TO 300
C**IF STATUS IS FAULTY EXECUTE BELOW
400     IGO = 1
          IOSTAT=1
```

(continued)

FIGURE B-2. (Continued)

```
      RETURN
       END
```

```
c--- version V1B modified by Ted Smith Dec. 30, 1987
c--- subscript error corrected in table overflow message
      SUBROUTINE CHAIN2(KEY, LKEY, INSERT, NCOL, NROW, IT, IRET,
JJ)
C--- ROUTINE INSERTES/RETRIEVES KEY IN/FROM HASHING TABLE
      IMPLICIT NONE
      INTEGER*4 KEY, LKEY, NCOL, NROW, IT, IRET, JJ
      LOGICAL*4 INSERT
C
C
C INPUT ARGUMENTS:
C KEY         KEY TO BE INSERTED/RETRIEVED IN/FROM TABLE
C LKEY        NUMBER OF WORDS IN KEY
C INSERT      INDICATES FUNCTION (INSERT OR RETRIEVE)
C             EQ .TRUE. FOR INSERT
C             EQ .FALSE. FOR RETRIEVE
C NCOL        NUMBER OF COLUMNS IN TABLE
C NROW        NUMBER OF ROWS IN TABLE
C             SHOULD BE PRIME NUMBER TO MINIMIZE NUMBER OF LINKS
C IT          HASHING TABLE
C
C OUTPUT ARGUMENTS:
C IRET        RETURN CODE STATUS
C             INSERTION CODES:
C             EQ 0, KEY INSERTED INTO TABLE
C             EQ 1, KEY ALREADY IN TABLE
C             EQ 2, KEY NOT INSERTED DUE TO TABLE OVERFLOW
C             RETRIEVAL CODES:
```

(continued)

FIGURE B-2. (Continued)

```
C            0, KEY FOUND IN TABLE
C            2, KEY NOT FOUND IN TABLE
C JJ         SLOT NUMBER WHERE KEY INSERTED OR RETRIEV
C
C
C** VARIABLE DECLARATIONS
      LOGICAL*4 SAME,MATCH
      INTEGER*4 LF, IRET1, II, I, ILF, LAST
      DIMENSION IT(NCOL,NROW)
      DIMENSION KEY (LKEY)
C-------------------------------------------------------------
C BEGIN PROGRAM INITIATION AND EXECUTION
C-------------------------------------------------------------


C--- GET SLOT NUMBER OF FIRST LINK
        II=0

        DO 100 I=1,LKEY

        II=IOR(II, KEY(I))

100     CONTINUE

        II=IABS(II)

        II=MOD(II,NROW)+1


C--- COMPUTE POSITION OF LINK FIELD IN TABLE
        LF=LKEY+1


C--- R E T R I E V E  HAS BEEN REQUESTED
       IF (INSERT) GO TO 500

C        ASSUME KEY NOT IN TABLE (COMPARE KEYS)
         SAME=MATCH(KEY,IT(1,II),LKEY)

C--- EQUALS REQUESTED KEYS
         IF (SAME) THEN
```

(continued)

FIGURE B-2. (Continued)

```
C--- SAVE SLOT
          JJ=II

C--- QUIT TO KEY IN TABLE
          GO TO 400

          END IF

C--- GET NEXT LINK IN CHAIN
          II=IT(LF,II)

C--- PROCESS CHAIN
200       IF (II .EQ. 0) GO TO 300

C--- COMPARE KEYS
          SAME=MATCH(KEY,IT(1,II),LKEY)

C--- CHECK KEY IN LINK
          IF (SAME) THEN

C--- SAVE SLOT NUMBER
          JJ=II

C--- QUIT TO KEY IN TABLE
          GO TO 400

          END IF
C--- GET NEXT LINK IN CHAIN
           II=IT(LF,II)

           GO TO 200

C--- SET RETURN CODES
C--- KEY IS NOT IN TABLE
300        IRET=2
           JJ=0
           RETURN


C--- KEY FOUND IN TABLE
C          SET SLOT NUMBER
```

(continued)

FIGURE B-2. (Continued)

```
C--- SET RETURN CODE
400       IRET=0
          RETURN

C------------------------------------------

C--- I N S E R T  HAS BEEN REQUESTED

500       IF (IT(1,II) .EQ. 0) THEN
C--- FIRST LINK IN CHAIN IS EMPTY

C--- INSERT KEYS
          DO 600 I=1,LKEY

          IT(I,II)=KEY(I)

600       CONTINUE

C--- ZERO LINK FIELD
          IT(LF,II)=0

C--- SET SLOT NUMBER
          JJ=II


C--- SET RETURN CODE
          IRET=0

          RETURN

          END IF


C----------------------------------------
C--- OTHERWISE FIRST LINK IN CHAIN NOT EMPTY
C         KEY NOT ALREADY IN TABLE
          SAME=MATCH (KEY,IT(1,II),LKEY)

C--- EQUAL REQUESTED KEY
          IF (SAME) THEN

C--- SAVE SLOT
```

(continued)

FIGURE B-2. (Continued)

```
          JJ=II

C--- QUIT TO KEY IN TABLE
          GO TO 675
          END IF

      ILF=IT(LF, II)
C--- FIND END OF CHAIN
650   IF(ILF.EQ.0) GO TO 700
C--- COMPARE KEYS
          SAME=MATCH(KEY,IT(1,II),LKEY)

          IF (SAME) THEN

C--- SAVE SLOT
          JJ=II

C--- QUIT TO KEY IN TABLE
          GO TO 675
          END IF

C--- GET NEXT LINK IN CHAIN
      II=ILF
      ILF=IT(LF, II)

          GO TO 650

C--- KEY FOUND TO BE IN TABLE
C         SET SLOT NUMBER


C--- SET RETURN CODE
675       IRET = 1
          RETURN


C--- SAVE LINK AT END OF CHAIN
700     LAST=II


C--- CHECK TABLE CAPACITY
C        ASSUME TABLE IS FULL PROCESS START AT BOTTOM OF TABLE
```

(continued)

FIGURE B-2. (Continued)

```
        II=NROW
C
C--- FIND END OF LIST
800      IF (II .EQ. 0) GO TO 1103

C--- CHECK ITERATION
         IF (IT(1,II) .EQ. 0) THEN

         JJ=II

         GO TO 1105

         END IF
C--- MOVE FROM BOTTOM OF TABLE
         II=II-1

         GO TO 800

C--- PRINT OVERFLOW MESSAGE
1103    IRET1=2
        IRET=2
        PRINT 1104
1104    FORMAT('0** TABLE OVERFLOW IN ROUTINE CHAIN2.',/)
        PRINT 1107, LKEY, NCOL, NROW, LF, IRET1, II
1107    FORMAT(5X, 'LKEY = ', I5, /,
     $         5X, 'NCOL = ', I5, /,
     $         5X, 'NROW = ', I5, /,
     $         5X, 'LF = ', I5, /,
     $         5X, 'IRET1 = ', I5, /,
     $         5X, 'II = ', I5, /)
C        PRINT 1106,KEY(I),(KEY(I),I=1,LKEY)
        PRINT 1106,KEY(1),(KEY(I),I=1,LKEY)
1106    FORMAT (1X,'KEY=',1X,I10,' OR ',20A4)
        RETURN

C--- TABLE IS NOT FULL SET SLOT NUMBER
1105      JJ=II


C--- INSERT KEY
```

(continued)

FIGURE B-2. (Continued)

```
        DO 1200 I=1,LKEY

        IT(I,II) = KEY(I)

1200    CONTINUE

C--- ZERO LINK FIELD
        IT(LF,II) =0

C--- CONNECT TO END OF CHAIN

        IT(LF,LAST)=II

C--- SET RETURN CODES
         IRET=0



         RETURN
         END
C*************************************************************
```

```
      SUBROUTINE FLNAM2(JDEV, EQNAM)
C--- ROUTINE RETURNS NAME OF FILE ATTACHED TO UNIT JDEV
      IMPLICIT NONE
      INTEGER*4 JDEV
```

(continued)

FIGURE B-2. (Continued)

```
      CHARACTER*(*) EQNAM
C
C
C INPUT ARGUMENTS:
C JDEV      UNIT NUMBER ATTACHED TO FILE
C OUTPUT ARGUMENTS:
C FLNAM2    NAME OF FILE ATTACHED TO UNIT JDEV
C
C
      INTEGER*4 IDEV
      IDEV=JDEV
      INQUIRE (UNIT=IDEV, NAME=EQNAM)
      RETURN
      END
```

```
c--- version 2A created by Ted Smith on Dec. 20, 1987
c--- maximum number of species per profile increased from 75 to 325
c
c--- version 2A modified by Ted Smith Jan. 2, 1988
c--- maximum number of specie classes increased from 30 to 32
c
C--- THIS FILE WAS COPIED FROM UNIVAC ELEMENT AWGPSPLIT.MERGE.
C***********************************************
C ** SUBROUTINE MERGE
C***********************************************

      SUBROUTINE MERGE (NSPEC,NCLASS,MW,WTPC,NSB,MOLES,MOLEPC,
```

(continued)

FIGURE B-2. (Continued)

```
     1   SPCLAS,MOLWT,MOLEFX,NSP,SPWT,SPMW,SPMOLE,SPNSB,SPMLPC,
     2   SPMLFX,MOLEWT)

        INCLUDE 'PARAMS_1A.CBK/LIST'
C*VARIABLE DECLARATIONS

      REAL MW,MOLES,MOLEPC,MOLEFX,MOLEWT,MOLWT
      INTEGER SPNSB,CLAS,SPCLAS

      DIMENSION NSP(NCLASS), MW(NSPEC), WTPC(NSPEC), NSB(NSPEC),

     1 MOLES(NSPEC), MOLEPC(NSPEC), MOLEFX(NSPEC),
     2 SPWT(MXPRSP,MXCLASS), SPMW(MXPRSP,MXCLASS),
     3 SPMOLE(MXPRSP,MXCLASS),
     3 SPNSB(MXPRSP,MXCLASS), SPMLPC(MXPRSP,MXCLASS),
     4 MOLEWT(MXPRSP,MXCLASS),
     4 MOLWT(MXPRSP),
     4 SPMLFX(MXPRSP,MXCLASS), SPCLAS(NSPEC)

C
C*VARIABLE DESCRIPTIONS - OUTPUT
C * NSP  =NUMBER OF SPECIES PER CLASS
C * SPWT =WT OF EACH SPECIE IN CLASS I
C * SPMW =MOLECULAR WEIGHT OF EACH SPECIE IN CLASS I
C * SPMOLE = MOLES OF EACH SPECIE IN CLASS I
C * SPNSB  = NUMBER OF SINGLE BONDS OF SPECIE IN CLASS I
C * SPMLPC = MOLE PERCENT OF SPECIES IN CLASS I
C * SPMLFX = MOLE FRACTION OF SPECIES IN CLASS I
C * MOLEWT = MOLE WEIGHT OF SPECIES IN CLASS I

C**VARIABLE DESCRIPTIONS - INPUT
C * NCLASS = NUMBER OF CLASSES IN PROFILE
C * NSPEC  = NUMBER OF SPECIES IN PROFILE
C * SPCLA  = SPECIE CLASS NUMBER FOR SPEC.SPECIE IN PROFILE
C * SPCMW  = SPECIE MOLECULAR WEIGHT
C * SPWTPC = SPECIE WEIGHT PERCENT
C * SPCNSB = SPECIE NUMBER OF SINGLE BONDS
C * MOLES  = NUMBER OF MOLES FOR SPECIE IN PROFILE
C * MOLEPC = MOLE PERCENT OF SPECIE IN PROFILE
C * MOLWT = MOLE WEIGHT OF SPECIE IN PROFILE
C * MOLEFX = MOLE FRACTION OF SPECIE IN PROFILE
```

(continued)

FIGURE B-2. (Continued)

```
C-------------------------------------------------------------
C ** BEGIN PROGRAM EXECUTION **
C-------------------------------------------------------------
C--INITIALIZE CLASS COUNTER
       DO 100 K=1,NCLASS

C--ZERO SPECIE COUNTER
       NSP(K)=0

C--ZERO 2D SAVE ARRAYS
       DO 100 L=1,NSPEC
         SPWT(L,K)=0
         SPMW(L,K)=0
         SPMOLE(L,K)=0
         SPMLFX(L,K)=0
         SPMLPC(L,K)=0
         SPNSB(L,K)=0
         MOLEWT(L,K)=0


100    CONTINUE

C-------------------------------------------------------------
C ** PROCESS PROFILE
C-------------------------------------------------------------
C-EXTRACT SPECIE DATA
       DO 200 M=1,NSPEC

C--EXTRACT CLASS OF SPECIE
        CLAS   = SPCLAS(M)

C--INCREMENT SPECIE COUNTER
        NSP(CLAS)  =NSP(CLAS) + 1

C--PLACE COUNTER INTO LOCAL VARIABLE
        N=NSP(CLAS)

C--EXTRACT REMAINING ARGUEMENTS INTO COUNTERS
        SPWT (N,CLAS)  = WTPC(M)
        SPMW (N,CLAS)  = MW (M)
        SPNSB (N,CLAS) = NSB (M)
```

(continued)

FIGURE B-2. (Continued)

```
      SPMOLE (N,CLAS) = MOLES (M)
      SPMLPC (N,CLAS) = MOLEPC(M)
      SPMLFX (N,CLAS)  = MOLEFX(M)
      MOLEWT(N,CLAS) = MOLWT(M)

200   CONTINUE

      RETURN

      END
```

```
C*************************************************************
c--- modified by Ted Smith Jan. 23, 1988
c--- increased maximum number of records from 4000 to 5000
c
C--- THIS FILE WAS COPIED FROM UNIVAC ELEMENT WTSUTILITY1.SORT4.
      SUBROUTINE  SORT4(NREC,  REC1,  LREC,  JCOL1,  JCOL2,  JCOL3,
JCOL4)
C---  ROUTINE  SORTS  FILE  INTO  ASCENDING  ORDER  USING  INSERTION
TECHNIQUE
```

(continued)

FIGURE B-2. (Continued)

```
C--- FIRST KEY LIST IS CREATED AND SORTED.
C--- THEN FILE IS REORDERED USING KEY LIST.
      IMPLICIT NONE
      INTEGER*4 NREC, LREC, JCOL1, JCOL2, JCOL3, JCOL4
      CHARACTER*(*) REC1
      DIMENSION REC1(NREC)
C
C INPUT ARGUMENTS:
C NREC      NUMBER OF RECORDS IN ARRAY TO BE SORTED
C REC1(I)   RECORD I IN ARRAY TO BE SORTED
C LREC      NUMBER OF WORDS IN RECORD (NOT USETD)
C JCOL1     COLUMN NUMBER OF FIRST CHAR IN MAJOR KEY
C JCOL2     COLUMN NUMBER OF LAST CHAR IN MAJOR KEY
C JCOL3     COLUMN NUMBER OF FIRST CHAR IN MINOR KEY
C JCOL4     COLUMN NUMBRER OF LAST CHAR IN MINOUR KEY
C
C OUTPUT ARGUMENTS:
C REC1(I)   ARRAY CONTAINING SORTED RECORDS
C
      INTEGER*4 MAXR, MAXC
      PARAMETER (MAXR=5000, MAXC=500)
C MAXR      MAX NUMBER OF RECORDS THAT CAN BE SORTED
C MAXC      MAX NUMBER OF CHARS IN EACH RECORD
C
      LOGICAL*4 KEYFLG
      INTEGER*4 ACOMPB
      CHARACTER*(MAXC) SAVREC
      INTEGER*4 NRECS, LRECL, MAXREC, MAXCH, ICOL1, ICOL2, ICOL3,
     $          ICOL4, NCHARS, I, IREC1, INSRT, IREC2, ISRCEA,
     $          ISRCEB, K, NMOVE, IP1, L, IBUF
      DIMENSION IBUF(MAXR)
      NAMELIST /LIST1/ NRECS, LRECL, MAXREC, MAXCH
      NRECS=NREC
      LRECL=LREC
      MAXREC=MAXR
      MAXCH=MAXC
C--- GET START AND END COLUMN NUMBERS FOR MAJOR KEY
      ICOL1=JCOL1
      ICOL2=JCOL2
C--- GET START AND END COLUMN NUMBERS FOR MINOR KEY
      ICOL3=JCOL3
      ICOL4=JCOL4
```

(continued)

FIGURE B-2. (Continued)

```
      KEYFLG=ICOL3.GT.0 .AND. ICOL4.GT.0
      IF(NRECS.GT.MAXREC) THEN
           PRINT 220
220        FORMAT(///, 1X, '*** ERROR ABORT IN ROUTINE SORT4 ***',
/,
     $             1X, 'MAX NUMBER OF RECORDS EXCEEDED')
           PRINT LIST1
           CALL EXIT
           END IF
      NCHARS=LEN(REC1(1))
      IF(NCHARS.GT.MAXCH) THEN
           PRINT 240
240        FORMAT(///, 1X, '*** ERROR ABORT IN ROUTINE SORT4 ***',
/,
     $             1X, 'MAX RECORD SIZE EXCEEDED')
           PRINT LIST1
           CALL EXIT
           END IF
C--- INITIALIZE SOURCE NUMBERS
      DO 300 I=1, NRECS
      IBUF(I)=I
300   CONTINUE
      IREC1=2
C--- BEGIN LOOP ON RECORDS IN FILE
400   IF(IREC1.GT.NRECS) GO TO 700
C--- ASSUME RECORD BELONGS AT TOP OF FILE
      INSRT=1
      IREC2=IREC1 - 1
C--- GET SOURCE RECORD NUMBER FOR RECORD TO BE INSERTED
      ISRCEA=IBUF(IREC1)
C---  SEARCH  PREVIOUSLY  SORTED  RECORDS  UNTIL  INSERTION  POINT  IS
FOUND
500   IF(IREC2.LT.1) GO TO 620
C--- GET SOURCE NUMBER FOR SORTED RECORD
      ISRCEB=IBUF(IREC2)
C--- COMPARE MAJOR KEYS ON RECORD A AND RECORD B
      K=ACOMPB(REC1(ISRCEA), REC1(ISRCEB), ICOL1, ICOL2)
      IF (K) 600,520,560
C--- KEYS ARE EQUAL SO CHECK MINOR KEYS IF REQUIRED
520   IF(KEYFLG) GO TO 530
C--- MINOR KEYS ARE NOT AVAILABLE
C--- MAJOR KEYA EQ KEYB, SO INSERTION POINT HAS BEEN FOUND
```

(continued)

FIGURE B-2. (Continued)

```
      INSRT=IREC2 + 1
      GO TO 620
C--- COMPARE MINOR KEYS ON RECORD A AND RECORD B
530   K=ACOMPB(REC1(ISRCEA), REC1(ISRCEB), ICOL3, ICOL4)
      IF (K) 600,540,540
C--- MINOR KEYA GE KEYB, SO INSERTION POINT HAS BEEN FOUND
540   INSRT=IREC2 + 1
      GO TO 620
C--- MAJOR KEYA GT KEYB, SO INSERTION POINT HAS BEEN FOUND
560   INSRT=IREC2 + 1
      GO TO 620
600   IREC2=IREC2 - 1
      GO TO 500
C--- INSERTION POINT HAS BEEN FOUND
620   IF(INSRT.NE.IREC1) THEN
C--- RECORD IS NOT IN ITS CORRECT POSITION
C--- CALC. NMBER OF RECORD POINTERS TO BE MOVED
            NMOVE=IREC1 - INSRT
            IP1=INSRT + 1
C--- SHIFT LIST OF RECORD POINTERS DOWN 1 WORD
            CALL MOVE4(IBUF(INSRT), IBUF(IP1), NMOVE)
C--- INSERT RECORD POINTER
            IBUF(INSRT)=IREC1
            END IF
      IREC1=IREC1 + 1
      GO TO 400
C--- RECORD POINTERS HAVE BEEN SORTED, SO REORDER RECORDS
700   CALL REORDR(REC1, NRECS, NCHARS, IBUF(1), SAVREC)
      CONTINUE
      RETURN
      END
```

(continued)

FIGURE B-2. (Continued)

```
c--- version modified by Ted Smith Dec. 30, 1987
c--- arguments REC1 and REC2 given dimensions to allow /CHECK=ALL
c--- option on compile
C--- THIS FILE WAS COPIED FROM UNIVAC ELEMENT WTSUTILITY1.ACOMPB.

C*********************************************************.

C**FUNCTION ACOMPB****************************************

C*********************************************************

C

C**FUNCTION ACOMPB COMPARES KEY FIELDS BETWEEN TWO RECORDS

C

        FUNCTION ACOMPB (REC1,REC2,JKEY1,JKEY2)

       IMPLICIT NONE
       INTEGER*4 ACOMPB

       INTEGER*4 JKEY1, JKEY2
C

C**VARIABLE DESCRIPTION

C      REC1=RECORD1 IN WORKING FILE

C      REC2=RECORD2 IN WORKING FILE

C      JKEY1=COLUMN OF FIRST CHARACTER IN KEY

C      JKEY2=COLUMN OF LAST CHARACTER IN KEY

C
```

(continued)

FIGURE B-2. (Continued)

```
C**VARIABLE DECLARATIONS

      CHARACTER*4 CHARA, CHARB

C      CHARACTER*4 REC1, REC2

      CHARACTER*(*) REC1, REC2
      INTEGER*4 ICHARA, ICHARB, IKEY1, IKEY2, I
      EQUIVALENCE (CHARA, ICHARA)

      EQUIVALENCE (CHARB, ICHARB)

      DATA ICHARA /0/

      DATA ICHARB /0/

C

C

C

C**COMPARISON OF KEYS

C--FETCH START/END KEYS

      IKEY1=JKEY1

      IKEY2=JKEY2

C

C--SET SWAP FLAG

      ACOMPB=0

C

      DO 100 I=IKEY1,IKEY2

      CHARA(4:4)=REC1(I:I)
```

(continued)

FIGURE B-2. (Continued)

```
      CHARB(4:4)=REC2(I:I)
      IF(ICHARA - ICHARB) 50, 100, 70
50    ACOMPB=-1
      RETURN
70    ACOMPB=+1
      RETURN
C
 100  CONTINUE
      RETURN
      END
```

```
C--- THIS FILE WAS COPIED FROM UNIVAC ELEMENT WTSUTILITY1.MATCH.
C     COMPILER (ARGCHK=OFF)
      FUNCTION MATCH(KEY1, KEY2, LKEY)
C--- ROUTINE RETURNS .TRUE. VALUE IF KEY1 = KEY2
      IMPLICIT NONE
      INTEGER*4 LKEY, KEY1, KEY2
```

(continued)

FIGURE B-2. (Continued)

```
      LOGICAL*4 MATCH

      INTEGER*4 I
      DIMENSION KEY1(LKEY), KEY2(LKEY)

C--- ASSUME KEYS MATCH

      MATCH=.TRUE.

      DO 320 I=1, LKEY

      IF(KEY1(I).NE.KEY2(I)) GO TO 400

320   CONTINUE

      RETURN

400   MATCH=.FALSE.

      RETURN

      END






C--- THIS FILE WAS COPIED FROM UNIVAC ELEMENT WTSUTILITY1.MOVE4.

C       COMPILER (ARGCHK=OFF)
```

(continued)

FIGURE B-2. (Continued)

```
      SUBROUTINE MOVE4(IBUF1, IBUF2, NW)

C--- ROUTINE MOVES NWORDS FROM IBUF1 TO IBUF2

C--- WORDS ARE MOVED IN REVERSE ORDER SO THAT THIS ROUTINE

C--- MAY BE USED TO ALSO SHIFT WORDS WITHIN THE SAME BUFFER

      IMPLICIT NONE
      INTEGER*4 NW, IBUF1, IBUF2
      DIMENSION IBUF1(NW), IBUF2(NW)

      INTEGER*4 NWORDS, I
      NWORDS=NW

      DO 300 I=NWORDS, 1, -1

      IBUF2(I)=IBUF1(I)

300   CONTINUE

      RETURN

      END




C--- THIS FILE WAS COPIED FROM UNIVAC ELEMENT WTSUTILITY1.REORDR.
C       COMPILER (ARGCHK=OFF)
      SUBROUTINE REORDR(REC1, NREC, NCHAR, ISRCE, SAVREC)

C--- ROUTINE REORDERS RECORDS USING LIST OF RECORD POINTERS
```

(continued)

FIGURE B-2. (Continued)

```
      IMPLICIT NONE
      INTEGER*4 NREC, NCHAR, ISRCE
      CHARACTER*(*) REC1, SAVREC
      DIMENSION REC1(NREC), ISRCE(NREC)
C
C INPUT ARGUMENTS:
C REC1(I)   RECORD I IN ARRAY TO BE REORDERED
C NREC      NUMBER OF RECORDS IN ARRAY
C NCHAR     NUMBER OF CHARS IN EACH RECORD
C ISRCE(I)  SOURCE LOCATION OF SORTED RECORD I IN UNSORTED ARRAY
C SAVREC    BUFFER USED TO SAVE ONE RECORD
C
C OUTPUT ARGUMENTS
C REC1(I)   RECORD I IN SORTED ARRAY
C
      INTEGER*4 NRECS, NCHARS, I, ISRC, IEMPTY
      NRECS=NREC
      NCHARS=NCHAR
C--- BEGIN LOOP ON RECORD POINTERS
      DO 500 I=1, NRECS
C--- GET SOURCE NUMBER FOR RECORD
      ISRC=ISRCE(I)
      IF(ISRC.EQ.I) GO TO 500
C--- RECORD IN THIS SLOT DOES NOT BELONG HERE
C--- MOVE THIS RECORD TO TEMPORARY POSITION
      SAVREC(1:NCHARS)=REC1(I)(1:NCHARS)
C--- RECORD SLOT I IS NOW EMPTY
      IEMPTY=I
C--- FILL EMPTY RECORDS UNITL HOME FOR SAVE RECORD IS FOUND
300   IF(ISRC.EQ.I) GO TO 400
C--- MOVE SOURCE RECORD INTO ITS CORRECT POSITION
      REC1(IEMPTY)(1:NCHARS)=REC1(ISRC)(1:NCHARS)
C--- EMPTY SLOT NOW CONTAINS ITS CORRECT RECORD
      ISRCE(IEMPTY)=IEMPTY
C--- THE SLOT FROM WHICH THE SOURCE CAME IS NOW EMPTY
      IEMPTY=ISRC
C--- GET THE NUMBER OR THE SOURCE RECORD FOR THE EMPTY SLOT
      ISRC=ISRCE(IEMPTY)
      GO TO 300
C--- HOME FOR SAVED RECORD HAS BEEN FOUND
400   REC1(IEMPTY)(1:NCHARS)=SAVREC(1:NCHARS)
      ISRCE(IEMPTY)=IEMPTY
```

(continued)

FIGURE B-2. (Continued)

```
500   CONTINUE
      RETURN
      END
```

```
C--- THIS FILE WAS COPIED FROM UNIVAC ELEMENT WTS-IO-LIB1.JFILE2.

      FUNCTION JFILE2(FNAME, RFORM, RED)

C--- ROUTINE ATTACHES UNIT NUMBER TO SEQUENTIAL FILE

      INTEGER*4 JFILE2
C

C

C     INPUT ARGUMENTS:

C     FNAME            INTERNAL NAME ATTACHED TO SEQUENTIAL FILE

C     RFORM            DETERMINES TYPE  OF RECORDS
C                      EQ .TRUE., RECORDS ARE FORMATTED
C                      NE .TRUE., RECORDS ARE UNFORMATTED
C     RD               DETERMINES READ/WRITE ACCESS
C                      EQ .TRUE., READ ONLY ACCESS
C                      NE .TRUE., READ/WRITE ACCESS
C

C     OUTPUT ARGUMENTS:
```

(continued)

FIGURE B-2. (Continued)

```
C    JFILE2          UNIT NUMBER ATTACHED TO SEQUENTIAL FILE
C
C
      LOGICAL*4 RFORM, RED
      INTEGER*4 JUNIT, IOCL, IDEV, IOST
      CHARACTER*4 RD, SHARE, FMT
      CHARACTER*8 STAT
      CHARACTER*12 FNAME, FORM, UNFORM, FORMAT, NAME


      CHARACTER*64 EQNAME
      NAMELIST /LIST1/ NAME, IDEV, IOST, EQNAME


      DATA FORM /'FORMATTED   '/
      DATA UNFORM /'UNFORMATTED '/
      NAME=FNAME

      IDEV=JUNIT()

      IF(RFORM) THEN
            FORMAT=FORM
            FMT='YES'
            ELSE
            FORMAT=UNFORM
            FMT='NO'
            END IF
      IF(RED) THEN
      OPEN (UNIT=IDEV, IOSTAT=IOST, FILE=FNAME, STATUS='OLD',
     $        ACCESS='SEQUENTIAL', CARRIAGECONTROL='NONE',

     $       FORM=FORMAT, READONLY, SHARED)
      STAT='OLD'
      RD='YES'
      SHARE='YES'
      ELSE
      OPEN (UNIT=IDEV, IOSTAT=IOST, FILE=FNAME, STATUS='UNKNOWN',
```

(continued)

FIGURE B-2. (Continued)

```
      $      ACCESS='SEQUENTIAL', CARRIAGECONTROL='NONE',


      $      FORM=FORMAT)
        STAT='UNKNOWN'
        RD='NO'
        SHARE='NO'
        END IF
        IF(IOST.NE.0) THEN

             IOST=IOCL(IOST)

             INQUIRE (FILE=FNAME, NAME=EQNAME)
             PRINT 220

220          FORMAT(///, 1X, '*** ERROR ABORT IN ROUTINE JFILE2 ***',
/,

      $             1X, 'UNABLE TO OPEN SEQUENTIAL FILE')

             PRINT LIST1

             CALL EXIT

             END IF

        INQUIRE (FILE=FNAME, NAME=EQNAME)
        JFILE2=IDEV

        PRINT 240, NAME, JFILE2, STAT, RD, SHARE, FMT,


      $           EQNAME
240     FORMAT(/, 1X, 'SEQUENTIAL FILE "', A12, '" OPENED ON UNIT ',

      $       I2, /,

      $       5X, 'STATUS: ', A8, '  READONLY: ', A3,
      $       '  SHARED: ', A3, '  FORMATTED: ', A3, /,
      $       5X, 'EQNAME = ', A64, /)
```

(continued)

FIGURE B-2. (Continued)

```
      RETURN

      END








C--- THIS FILE WAS COPIED FROM UNIVAC ELEMENT WTS-IO-LIB1.JFILE3.

      FUNCTION JFILE3(FNAME)

C--- ROUTINE ATTACHES UNIT NUMBER TO ALTERNATE PRINTFILE

      INTEGER*4 JFILE3
C

C

C    INPUT ARGUMENTS:

C    FNAME          INTERNAL NAME ATTACHED TO ALTERNATE PRINTFILE

C

C    OUTPUT ARGUMENTS:

C    JFILE3         UNIT NUMBER ATTACHED TO ALTERNATE PRINTFILE

C

C

      CHARACTER*12 FNAME, NAME
```

(continued)

FIGURE B-2. (Continued)

```
      CHARACTER*64 EQNAME
      INTEGER*4 JUNIT, IOCL, IDEV, IOST
      NAMELIST /LIST1/ NAME, IDEV, IOST, EQNAME


      NAME=FNAME

      IDEV=JUNIT()

      OPEN (UNIT=IDEV, IOSTAT=IOST, FILE=FNAME, STATUS='NEW',

     $       ACCESS='SEQUENTIAL', CARRIAGECONTROL='FORTRAN')


      IF(IOST.NE.0) THEN

           IOST=IOCL(IOST)

           INQUIRE (FILE=FNAME, NAME=EQNAME)
           PRINT 220

220        FORMAT(///, 1X, 'ERROR ABORT IN ROUTINE JFILE3 ***', /,

     $             1X, 'UNABLE TO OPEN ALTERNATE PRINTFILE')

           PRINT LIST1

           CALL EXIT

           END IF

      INQUIRE (FILE=FNAME, NAME=EQNAME)
      JFILE3=IDEV

      PRINT 240, NAME, JFILE3, EQNAME


240   FORMAT(/, 1X, 'ALTERNATE PRINTFILE "', A12, '" OPENED ON UNIT
',
     $       I2, /,
```

(continued)

FIGURE B-2. (Continued)

```
     $        5X, 'EQNAME = ', A64, /)
      RETURN

      END
```

```
C--- THIS FILE WAS COPIED FROM UNIVAC ELEMENT WTSUTILITY2.JUNIT.

      FUNCTION JUNIT()

C--- ROUTINE RETURNS NEXT AVAILABLE UNIT NUMBER

      IMPLICIT NONE
      INTEGER*4 JUNIT
C

C

C     OUTPUT ARGUMENTS:

C     JUNIT          UNIT NUMBER SELECTED

C

C

      LOGICAL*4 AVAIL


      INTEGER*4 I, MAX, IGO
      DIMENSION AVAIL(50)

      NAMELIST /LIST1/ I, MAX
```

(continued)

FIGURE B-2. (Continued)

```
      DATA AVAIL /50 * .TRUE./
      DATA MAX /50/
      DATA IGO /1/
      GO TO (10001, 10002), IGO
10001 CONTINUE
C--- SET UNIT NUMBERS THAT ARE NOT AVAILABLE FOR I/O
      AVAIL(1)=.FALSE.
      AVAIL(5)=.FALSE.
      AVAIL(6)=.FALSE.
      AVAIL(30)=.FALSE.
C--- BEGIN LOOP ON UNIT NUMBERS
      I=1
200   IF(I.GT.MAX) GO TO 300
      IF(.NOT.AVAIL(I)) GO TO 220
      JUNIT=I
      IGO=2
      RETURN
10002 CONTINUE
220   I=I + 1
      GO TO 200
300   PRINT 320
```

(continued)

FIGURE B-2. (Continued)

```
320   FORMAT(///, 1X, '*** ERROR ABORT IN ROUTINE JUNIT ***', /,
     $       1X, 'NO MORE UNIT NUMBERS AVAILABLE FOR I/O')
      PRINT LIST1
      PRINT 340, (I, AVAIL(I), I=1, MAX)
340   FORMAT(1X, 'AVAILABLE UNIT NUMBERS ARE: ', /,
     $       3(1X, 20(I2, '-', L1, 2X),/))
      CALL EXIT
      END
```

(continued)

FIGURE B-2. (Continued)

Include Files Referenced In PSPLIT Source:

File BLK1.CBK

```
C MODULE COPIED FROM PROC BLK1
C  IN UNIVAC ELEMENT AWGPSPLIT.PROCS1
       INTEGER*4 IDEV2, IDEV3, IDEV7, IDEV8, IDEV9,
     1           IDEV10, IDEV11, IDEV12, IDEV13, IDEV15
       CHARACTER*12 FILE02, FILE03, FILE07, FILE08, FILE09,
     1              FILE10, FILE11, FILE12, FILE13, FILE15
       COMMON /BLK1/ IDEV2, IDEV3, IDEV7, IDEV8, IDEV9,
     1               IDEV10,IDEV11,IDEV12,IDEV13,IDEV15,
     2               FILE02, FILE03, FILE07, FILE08, FILE09,
     3               FILE10, FILE11, FILE12, FILE13, FILE15
C
C
C    IDEV2          UNIT NUMBER ATTACHED TO SCC PROFILE FILE1 (EQ
2)
C    IDEV3          UNIT NUMBER ATTACHED TO SCC PROFILE FILE2 (EQ
3)
C    IDEV7          UNIT NUMBER ATTACHED TO SPECIE CLASS INPUT
C                   FILE (EQ 7)
C    IDEV8          UNIT NUMBER ATTACHED TO SPECIE CLASS OUTPUT
C                   FILE (EQ 8)
C    IDEV9           UNIT NUMBER ATTACHED TO ALTERNATE PRINT FILE
(EQ 9)
```

(continued)

FIGURE B-2. (Continued)

```
C    IDEV10         UNIT NUMBER ATTACHED TO HC PROFILE INPUT
C                   FILE (EQ 10)
C    IDEV11         UNIT NUMBER ATTACHED TO HC PROFILE OUTPUT
C                   FILE (EQ 11)
C    IDEV12          UNIT NUMBER ATTACHED TO POLLUTANT SPLIT FILE
(EQ 12)
C    IDEV13         UNIT NUMBER ATTACHED TO ALTERNATE PRINT
C                   FILE USED TO TRACE CHEMISTRY CALCULATIONS.(EQ
13)
C
C    IDEV15         UNIT NUMBER ATTACHED TO PROFILE CLASS AVMW
C                   REPORT FILE
C
      DATA FILE02 /'SCC_PROFILE1'/
      DATA FILE03 /'SCC_PROFILE2'/
      DATA FILE07 /'SPECIE_CLAS1'/
      DATA FILE08 /'SPECIE_CLAS2'/
      DATA FILE09 /'PSPLIT_RPTS'/
      DATA FILE10 /'HC_PROFILE1'/
      DATA FILE11 /'HC_PROFILE2'/
      DATA FILE12 /'POL_SPLITS'/
      DATA FILE13 /'CHEM_TRACE'/
      DATA FILE15 /'PR_CLAS_AVMW'/
```

File PARAMS_1A.CBK

```
c--- version 1A created Dec. 20, 1987 by Ted Smith
c--- previous versions of PSPLIT did not used this .CBK file
c--- this files was creted to define the maximum number of species
c--- per profile and to increase it from 75 to 325
c
c--- version 1A modified Dec. 27, 1987 by Ted Smith
c--- maximum number of species over all classes increased from 500
to 640
c--- maximum number of SCC cards increased fro 1800 to 4000
c
```

(continued)

FIGURE B-2. (Continued)

```
c--- version 1A modified Dec. 30, 1987 by Ted Smith
c--- maximum number of profiles increased from 175 to 320
c
c--- version 1A modified Jan. 2, 1987 by Ted Smith
c--- maximum number of profile cards increased from 2000 to 4500
c--- number of specie classes increased from 30 to 32
c
c--- version 1A modified Feb. 27, 1989 by Jeff Layman
c--- maximum number of profile cards increased from 4500 to 5000
c--- number of specie classes remained at 32
c
      INTEGER*4 MXPRSP, MXCLSP, HSCLSP, MXSCC, MXPROF, HSPROF,
     1          MXPRCD, MXCLASS
      PARAMETER (MXPRSP = 325)
c--- MXPRSP = maximum number of species per profile
      PARAMETER (MXCLSP = 640, HSCLSP = 809)
c--- MXCLSP = maximum number of species over all classes
c--- HSCLSP = hashing table size for class table
c          = prime number GE (.25 MXCLSP + MXCLSP)
      PARAMETER (MXSCC = 4000)
c--- MXSCC = maximum number of SCC profile cards
      PARAMETER (MXPROF = 320, HSPROF = 401)
c--- MXPROF = maximum number of profiles
c--- HSPROF = hashing table size for profile table
c          = prime number GE (.25 MXPROF + MXPROF)
      PARAMETER (MXPRCD = 5000)
c--- MXPRCD = maximum number of profile cards
      PARAMETER (MXCLASS = 32)
C--- MXCLASS = maximum number of specie classes
```

File PRID.CBK

```
C MODULE COPIED FROM PROC PRID
C  IN UNIVAC ELEMENT AWGPSPLIT.PROCS1
```

(continued)

FIGURE B-2. (Continued)

```
      CHARACTER*8 PRVER
      CHARACTER*8 RUNDTE, RUNTIM
      CHARACTER*8 PRNAME
      COMMON /PRID/ PRNAME, PRVER, RUNDTE, RUNTIM
C    PRNAME          PROGRAM NAME
C    PRVER           PROGRAM VERSION
C    RUNDTE          RUN DATE
C    RUNTIM          RUN TIME
```

File PROFS_2A.CBK

```
c--- version 2A created by Ted Smith on Dec. 20, 1987
c--- hard coded value for maximum number of species per profile was
c--- replace by parameter symbol MXPRSP
c--- this version of the common block requires file PARAM.CBK be
c--- included
c
c--- version 2A modified by Ted Smith on Dec. 20, 1987
c--- maximum number of profiles increased from 175 to 320
c--- hard coded valud for maximum number of profiles was
c--- replaced by parameter symbol MXPROF
C MODULE COPIED FROM PROC PROFS
C  IN UNIVAC ELEMENT AWGPSPLIT.PROCS1
      CHARACTER*8 PRKEY, SPCOD2
      REAL NO, NO2
      REAL*4 SPMWT2
      COMMON   /PROFS/   NPROF,   PRKEY(MXPROF),   NO(MXPROF),
NO2(MXPROF),
     1               HCHO(MXPROF),
     1               MSPEC(MXPROF), SPCOD2(MXPRSP, MXPROF),
     2               SPWT2(MXPRSP, MXPROF),
     2               NROW2, NCOL2, IHASH2(4, HSPROF),
     3               SPMWT2(MXPROF)
C
C
C    NPROF           NUMBER OF HYDROCARBON PROFILES IN FILE
C    PRKEY           LIST OF HC PROFILE IDS IN ASCENDIND ORDER
```

(continued)

FIGURE B-2. (Continued)

```
C    PRKEY(I)        ID FOR PROFILE I
C    NO(I)          WEIGHT FRACTION (GRAMS OF NO/GRAMS OF PROFILE)
OF NO
C                    IN PROFILE I
C     HCHO               WEIGHT FRACTION (GRAMS OF HCHO/GRAMS OF
PROFILE) OF
C                    ALDEHYDE IN PROFILE I
C    MSPEC(I)        NUMBER OF SPECIES IN PROFILE I
C    SPCOD2(J, I)    SAROAD CODE FOR SPECIE J IN PROFILE I
C     SPWT2(J,  I)      WEIGHT FRACTION (GRAMS OF SPECIE/GRAMS OF
PROFILE)
C                    OF SPECIE J IN PROFILE I
C    NROW2          NUMBER OF ROWS IN HASHING TABLE FOR PROFILE IDS

C                     (EQ 223)
C    NCOL2          NUMBER OF COLUMNS IN HASHING TABLE FOR PROFILE
IDS
C                     (EQ 4)
C    IHASH2          HASHING TABLE FOR PROFILE IDS
C    IHASH2(1, I)    PROFILE ID FOR ENTRY I
C          (3, I)    LINK POINTER TO NEXT ENTRY IN CHAIN
C          (4, I)    POSITION OF ID IN LIST OF PROFILE IDS
C                    FOR ENTRY I
C    SPMWT2(I)      WEIGHTED MEAN MOLECULAR WEIGHT (GRAMS/MOLE) IN
PROFILE I
C
C
```

<u>File SPECIE_2A.CBK</u>

(continued)

FIGURE B-2. (Continued)

```
c version 2A created by Ted Smith Dec. 27, 1987
c maximum number of species per class increased from 500 to 640
c hard coded value 500 replaced by parameter symbol MXCLSP
c hashing table size increased from 631 to 809
c table size is lowest prime number le (MXCLSP + .25 * MXCLSP)
c
c version 2A modified by Ted Smith Dec. 27, 2987
c maximum number of specie classes increased from 30 to 32
c hard coded value 30 replaced by parameter symbol MXCLASS
c
C MODULE COPIED FROM PROC SPECIE
C  IN UNIVAC ELEMENT AWGPSPLIT.PROCS1
      CHARACTER*5 CLID
      CHARACTER*60 TITLE1
      CHARACTER*8 SPCOD1, CH4
      CHARACTER*16 CLNAM
      COMMON   /SPECIE/   TITLE1   ,   NCLASS,   CLID(MXCLASS),
CLNAM(MXCLASS),
     1                 CLMW(MXCLASS),
     1                 NSPEC, SPCOD1(MXCLSP), SPCLAS(MXCLSP),
     1                 SPMW1(MXCLSP),
     2                 NSB(MXCLSP),
     2                 NROW1, NCOL1, IHASH1(4, HSCLSP), CH4
C
C
C    TITLE1         TITLE OF CHEMISTRY PERFORMED
C    NCLASS         NUMBER OF SPECIE CLASSES IN FILE
C    CLID(I)        ID FOR SPECIE CLASS I
C    CLNAM(I)       NAME OF CLASS I
C     CLMW(I)          AVERAGE MOLECULAR WEIGHT (GRAMS/MOLE) FOR
SPECIE
C                   CLASS I
C    NSPEC          NUMBER OF SPECIES IN LIST OF CODES
C    SPCOD1         LIST OF SPECIE CODES IN ASCENDING ORDER
C    SPCOD1(I)      SAROAD CODE FOR SPECIE I
C    SPCLAS(I)      CLASS NUMBER FOR SPECIE I
C    SPMW1(I)       MOLECULAR WEIGHT (GRAMS/MOLE) FOR SPECIE I
C    NSB(I)         NUMBER OF SINGLE CARBON BONDS FOR SPECIE I
C    NROW1          NUMBER OF ROWS IN HASHING TABLE FOR SPECIE
```

(continued)

FIGURE B-2. (Continued)

```
C                        CODES (EQ HSCLSP)
C    NCOL1               NUMBER OF COLUMNS IN HASHING TABLE FOR SPECIE

C                        CODES (EQ 4)
C    IHASH1              HASHING TABLE FOR SPECIE SAROAD CODES
C    IHASH1(1, I)        SAROAD CODE FOR ENTRY I
C          (3, I)        LINK POINTER TO NEXT ENTRY IN CHAIN
C          (4, I)        POSITION OF CODE IN LIST OF SPECIE CODES
C                        FOR ENTRY I
C    CH4                 SAROAD CODE FOR METHANE
C
C
```

APPENDIX C

PSPLIT INPUT FILES FOR THE 1985 NAPAP MODELERS' EMISSIONS INVENTORY

This appendix contains listings of the files used as input to PSPLIT to create the hydrocarbon and NO_x speciation factors for the 1985 NAPAP inventory. The species profile file, depicted in Table C-1, contains the species-level contributions to each profile. The profile number appears in the first column of each record for reference. Each profile is represented by one header record (consisting of NO, NO_2 and formaldehyde weight percents) and a number of species records (each of which contains the species SAROAD code, weight percent in profile, molecular weight, and species name). The profiles appear in numerical order; hence, the overall average profile (0) is the first profile listed, and the industry average profiles (9001-9047) are the last.

Table C-2 contains the class assignments for all the species in the profiles. The 32 classes are listed first, followed by the SAROAD code, class assignment, molecular weight and name of all individual hydrocarbon species.

Tables C-3 through C-5 contain the profile assignments of all point and area source categories in the U.S. and Canadian anthropogenic inventories. U.S. and Canadian point sources were processed separately; however, because of the similarity of files used, only one listing is presented here.

TABLE C-1. PSPLIT SPECIES-PROFILE FILE

Profile Number	SAROAD Code	Weight Percent	Molecular Weight	Species Name
H 0	95.00	5.00	0.00	
0	43105	0.54	86.17	ISOMERS OF HEXANE
0	43106	0.25	100.20	ISOMERS OF HEPTANE
0	43107	0.15	114.23	ISOMERS OF OCTANE
0	43108	0.19	128.25	ISOMERS OF NONANE
0	43109	0.40	142.28	ISOMERS OF DECANE
0	43110	0.05	156.30	ISOMERS OF UNDECANE
0	43111	0.46	170.32	ISOMERS OF DODECANE
0	43113	0.01	198.38	ISOMERS OF TETRADECANE
0	43114	0.42	212.41	ISOMERS OF PENTADECANE
0	43115	0.71	98.19	C-7 CYCLOPARAFFINS
0	43116	0.05	112.23	C-8 CYCLOPARAFFINS
0	43117	0.00	126.26	C-9 CYCLOPARAFFINS
0	43118	0.64	114.00	MINERAL SPIRITS
0	43119	0.36	114.00	LACTOL SPIRITS
0	43120	0.05	56.10	ISOMERS OF BUTENE
0	43121	0.05	70.13	ISOMERS OF PENTENE
0	43122	1.11	72.15	ISOMERS OF PENTANE
0	43125	0.03	140.27	C10 OLEFINS
0	43126	0.01	112.22	C2 CYCLOHEXANE
0	43127	0.01	126.24	C3 CYCLOHEXANE
0	43129	0.01	142.28	C4 SUBSTITUTED CYCLOHEXANE
0	43130	0.01	154.30	C5 SUBSTITUTED CYCLOHEXANE
0	43131	0.01	170.32	C6 SUBSTITUTED CYCLOHEXANE
0	43132	0.10	100.00	ALIPHATICS
0	43133	0.02	352.43	PARAFFINS (C16-C34)
0	43140	0.15	163.32	C7-C16
0	43141	0.02	114.23	C8 PARAFFIN
0	43143	0.01	70.13	C5 OLEFIN
0	43144	0.01	72.15	C5 PARAFFIN
0	43145	0.00	70.13	C5 PARAFFIN/OLEFIN
0	43150	0.01	138.25	ISOMERS OF C10H18
0	43155	0.01	240.47	ISOMERS OF HEPTADECANE
0	43156	0.01	254.50	ISOMERS OF OCTADECANE
0	43201	7.36	16.04	METHANE
0	43202	1.39	30.07	ETHANE
0	43203	2.86	28.05	ETHYLENE
0	43204	2.40	44.09	PROPANE
0	43205	1.40	42.08	PROPENE
0	43206	0.86	26.04	ACETYLENE
0	43212	1.81	58.12	N-BUTANE
0	43213	0.40	56.10	BUTENE
0	43214	0.42	58.12	ISO-BUTANE
0	43216	0.01	56.11	T-2-BUTENE
0	43218	0.67	54.09	1,3-BUTADIENE
0	43220	0.71	72.15	N-PENTANE
0	43221	0.08	72.15	ISO PENTANE
0	43224	0.54	70.13	1-PENTENE
0	43225	0.01	70.13	2-METHYL-1-BUTENE
0	43226	0.01	70.13	TRANS-2-PENTENE

NOTE: 'H' denotes a header record (contains weight percents of NO, NO2, and formaldehyde)

(continued)

TABLE C-1. (Continued)

Profile Number	SAROAD Code	Weight Percent	Molecular Weight	Species Name
0	43227	0.00	70.13	CIS-2-PENTENE
0	43228	0.00	70.13	2-METHYL-2-BUTENE
0	43229	0.02	86.17	2-METHYLPENTANE
0	43230	0.03	86.17	3-METHYL PENTANE
0	43231	1.37	86.17	HEXANE
0	43232	1.40	100.20	HEPTANE
0	43233	0.21	114.23	OCTANE
0	43235	0.09	128.25	NONANE
0	43238	0.54	142.28	N-DECANE
0	43241	0.14	156.31	N-UNDECANE
0	43242	0.01	70.14	CYCLOPENTANE
0	43243	0.40	68.12	ISOPRENE
0	43245	0.03	84.16	1-HEXENE
0	43247	0.04	100.20	2,4-DIMETHYLPENTANE
0	43248	0.90	84.16	CYCLOHEXANE
0	43250	0.01	114.22	2,2,4-TRIMETHYLPENTANE
0	43255	0.19	170.33	N-DODECANE
0	43256	0.35	136.24	A-PINENE
0	43257	0.23	136.24	B-PINENE
0	43258	0.10	184.36	N-TRIDECANE
0	43259	0.07	198.38	N-TETRADECANE
0	43260	0.17	212.41	N-PENTADECANE
0	43261	0.13	98.21	METHYLCYCLOHEXANE
0	43262	0.27	84.16	METHYLCYCLOPENTANE
0	43264	0.51	98.18	HEPTENE
0	43273	0.01	82.14	CYCLOHEXENE
0	43277	0.06	114.22	2,4-DIMETHYLHEXANE
0	43280	0.00	114.22	2,3,3 TRIMETHYLPENTANE
0	43281	0.02	54.09	1-BUTYNE
0	43282	0.01	54.09	2-BUTYNE
0	43283	0.01	84.16	C-3-HEXENE
0	43284	0.01	84.16	2-METHYL-2-PENTENE
0	43285	0.01	84.16	2-HEXENE
0	43286	0.00	112.20	DIMETHYLHEXENE
0	43288	0.02	112.23	ETHYLCYCLOHEXANE
0	43291	0.00	86.17	2,2-DIMETHYLBUTANE
0	43292	0.40	68.11	CYCLOPENTENE
0	43295	0.01	100.20	3-METHYLHEXANE
0	43301	1.40	32.04	METHYL ALCOHOL
0	43302	1.36	46.07	ETHYL ALCOHOL
0	43303	0.42	60.10	N-PROPYL ALCOHOL
0	43304	0.73	60.09	ISO-PROPYL ALCOHOL
0	43305	0.69	74.12	N-BUTYL ALCOHOL
0	43306	0.42	74.12	ISOBUTYL ALCOHOL
0	43308	0.44	118.17	BUTYL CELLOSOLVE
0	43309	0.42	74.12	TERT-BUTYL ALCOHOL
0	43310	0.39	76.11	METHYL CELLOSOLVE
0	43311	0.36	90.12	CELLOSOLVE
0	43313	0.00	104.15	1-ETHOXY-2-PROPANOL
0	43314	0.34	74.12	S-BUTYL ALCOHOL

NOTE: 'H' denotes a header record (contains weight percents of NO, NO2, and formaldehyde)

(continued)

TABLE C-1. (Continued)

Profile Number	SAROAD Code	Weight Percent	Molecular Weight	Species Name
0	43317	0.45	100.16	CYCLOHEXANOL
0	43318	0.00	130.23	2-ETHYL HEXANOL
0	43322	0.04	90.12	1,4 BUTANEDIOL
0	43350	1.12	46.07	DIMETHYLETHER
0	43351	0.62	74.12	ETHYL ETHER
0	43367	0.05	106.12	GLYCOL ETHER
0	43369	0.38	76.00	PROPYLENE GLYCOL
0	43370	0.37	62.07	ETHYLENE GLYCOL
0	43371	0.36	118.18	HEXYLENE GLYCOL
0	43373	0.39	106.12	DIETHYLENE GLYCOL
0	43374	0.66	134.18	DIPROPYLENE GLYCOL
0	43376	0.33	88.15	METHYL T-BUTYL ETHER
0	43377	0.46	134.18	CARBITOL
0	43378	0.39	120.15	METHYL CARBITOL
0	43379	0.39	162.23	BUTYL CARBITOL
0	43403	0.42	46.03	FORMIC ACID
0	43404	0.73	60.05	ACETIC ACID
0	43405	0.40	74.08	PROPIONIC ACID
0	43407	0.45	72.06	ACRYLIC ACID
0	43408	0.20	256.43	PALMITIC ACID
0	43409	0.40	146.14	ADIPIC ACID
0	43430	0.21	60.05	METHYL FORMATE
0	43432	0.71	74.08	METHYLACETATE
0	43433	0.44	88.10	ETHYL ACETATE
0	43434	0.49	102.15	N-PROPYL ACETATE
0	43435	0.58	116.16	N-BUTYL ACETATE
0	43437	0.38	86.09	METHYL ACRYLATE
0	43438	0.50	100.11	ETHYL ACRYLATE
0	43440	0.43	128.17	BUTYL ACRYLATE
0	43441	0.46	100.13	METHYL METHACRYLATE
0	43444	0.47	102.13	ISOPROPYL ACETATE
0	43450	0.36	73.09	DIMETHYL FORMAMIDE
0	43451	0.39	144.21	ISOBUTYL ISOBUTYRATE
0	43452	0.36	132.16	CELLOSOLVE ACETATE
0	43453	0.55	86.09	VINYL ACETATE
0	43454	0.08	270.46	METHYL PALMITATE
0	43455	0.03	242.41	METHYL MYRISTATE
0	43456	0.11	298.52	METHYL STEARATE
0	43457	0.17	76.09	METHYLAL
0	43458	0.09	218.24	SUBSTITUTED C9 ESTER (C12)
0	43459	0.02	130.19	C5 ESTER
0	43467	0.01	154.26	C4 SUBSTITUTED CYCLOHEXANON
0	43468	0.38	128.19	ISOBUTYL ACRYLATE
0	43469	0.01	162.00	BUTOXYETHOXYETHANOL ACETATE
0	43472	0.01	128.21	BUTOXYBUTENE
0	43502	1.55	30.03	FORMALDEHYDE
0	43503	0.84	44.05	ACETALDEHYDE
0	43504	0.42	58.08	PROPIONALDEHYDE
0	43505	0.77	56.07	ACROLEIN
0	43510	0.44	72.12	BUTYRALDEHYDE

NOTE: 'H' denotes a header record (contains weight percents of NO, NO2, and formaldehyde)

(continued)

TABLE C-1. (Continued)

Profile Number	SAROAD Code	Weight Percent	Molecular Weight	Species Name
0	43511	0.42	72.11	ISOBUTYRALDEHYDE
0	43513	0.02	58.04	GLYOXAL
0	43514	0.02	72.07	METHYL GLYOXAL
0	43520	0.12	72.12	TOTAL C2-C5 ALDEHYDES
0	43551	1.47	58.08	ACETONE
0	43552	1.22	72.10	METHYL ETHYL KETONE
0	43560	0.56	100.16	METHYL ISOBUTYL KETONE
0	43561	0.53	98.15	CYCLOHEXANONE
0	43562	0.51	114.21	METHYL AMYL KETONE
0	43563	0.07	114.19	2-METHYL-3-HEXANONE
0	43567	0.00	157.25	TETRAMETHYLPENTANONE
0	43568	0.02	138.25	NONENONE
0	43570	0.01	72.10	ALKENE KETONE
0	43601	0.38	44.05	ETHYLENE OXIDE
0	43602	0.50	58.08	PROPYLENE OXIDE
0	43603	0.07	98.06	MALEIC ANHYDRIDE
0	43604	0.35	102.09	ACETIC ANHYDRIDE
0	43704	0.58	53.06	ACRYLONITRILE
0	43721	0.00	45.09	ETHYLAMINE
0	43740	0.00	59.11	TRIMETHYLAMINE
0	43776	0.67	116.20	HEXAMETHYLENEDIAMINE
0	43777	0.44	61.08	ETHANOLAMINE
0	43778	0.44	43.07	ETHYLENEAMINES
0	43802	0.75	84.94	DICHLOROMETHANE
0	43803	0.51	119.39	CHLOROFORM
0	43804	0.65	153.84	CARBON TETRACHLORIDE
0	43805	0.03	173.85	METHYLENE BROMIDE
0	43811	0.61	137.38	TRICHLOROFLUOROMETHANE
0	43812	0.29	64.52	ETHYL CHLORIDE
0	43814	0.43	133.42	1,1,1-TRICHLOROETHANE
0	43815	0.58	99.00	ETHYLENE DICHLORIDE
0	43817	0.70	165.83	PERCHLOROETHYLENE
0	43820	0.35	133.42	1,1,2-TRICHLOROETHANE
0	43821	0.40	187.38	TRICHLOROTRIFLUOROETHANE
0	43822	0.69	92.00	TRIMETHYLFLUOROSILANE
0	43823	0.35	120.91	DICHLORODIFLUOROMETHANE
0	43824	0.43	131.40	TRICHLOROETHYLENE
0	43835	0.01	92.57	1-CHLOROBUTANE
0	43837	0.42	187.88	ETHYLENE DIBROMIDE
0	43838	0.02	112.99	PROPYLENE DICHLORIDE
0	43839	0.03	88.01	TETRAFLUOROMETHANE
0	43840	0.16	86.47	CHLORODIFLUOROMETHANE
0	43841	0.01	170.92	DICHLOROTETRAFLUORETHANE
0	43842	0.02	154.47	CHLOROPENTAFLUOROETHANE
0	43843	0.40	138.01	HEXAFLUOROETHANE
0	43844	0.30	70.01	TRIFLUOROMETHANE
0	43845	0.05	104.46	CHLOROTRIFLUOROMETHANE
0	43860	0.42	62.50	VINYL CHLORIDE
0	43862	0.34	88.54	CHLOROPRENE
0	43863	0.42	92.53	EPICHLOROHYDRIN

NOTE: 'H' denotes a header record (contains weight percents of NO, NO2, and formaldehyde)

(continued)

TABLE C-1. (Continued)

Profile Number	SAROAD Code	Weight Percent	Molecular Weight	Species Name
0	43902	0.33	62.13	ETHYL MERCAPTAN
0	43933	0.03	60.08	CARBONYL SULFIDE
0	43934	0.09	76.14	CARBON SULFIDE
0	43950	0.01	296.62	OCTAMETHYLCYCLOTETRASILOXAN
0	43951	0.00	76.08	SILOXANE
0	45101	0.47	114.00	NAPHTHA
0	45102	0.70	106.16	ISOMERS OF XYLENE
0	45104	0.04	120.19	ISOMERS OF ETHYLTOLUENE
0	45105	0.06	134.22	ISOMERS OF BUTYLBENZENE
0	45106	0.03	134.21	ISOMERS OF DIETHYLBENZENE
0	45107	0.11	120.19	TRIMETHYLBENZENE
0	45108	0.02	120.19	ISOMERS OF PROPYLBENZENE
0	45109	0.03	134.21	C3/C4/C5 ALKYLBENZENES
0	45110	0.01	134.22	C10 AROMATIC
0	45201	2.82	78.11	BENZENE
0	45202	2.04	92.13	TOLUENE
0	45203	0.65	106.16	ETHYLBENZENE
0	45204	0.59	106.16	O-XYLENE
0	45205	0.57	106.16	M-XYLENE
0	45206	0.40	106.16	P-XYLENE
0	45207	0.03	120.19	1,3,5-TRIMETHYLBENZENE
0	45208	0.01	120.19	1,2,4-TRIMETHYLBENZENE
0	45210	0.38	120.20	CUMENE (ISOPROPYL BENZENE)
0	45212	0.03	120.19	M-ETHYLTOLUENE
0	45220	1.20	104.14	STYRENE
0	45221	0.41	118.19	METHYL STYRENE
0	45226	0.01	154.21	BIPHENYL
0	45228	0.03	132.21	ETHYL STYRENE
0	45232	0.00	182.27	DIPHENYL ETHANE
0	45233	0.01	210.32	ETHYL-PHENYL-PHENYL-ETHANE
0	45236	0.38	162.28	DIISOPROPYL BENZENE
0	45238	0.02	120.19	ETHYLTOLUENE
0	45243	0.00	122.21	ETHYLDIMETHYLBENZENE
0	45244	0.00	134.22	TETRAMETHYLBENZENE
0	45245	0.00	148.24	C5-ALKYLBENZENES
0	45300	0.44	94.11	PHENOL
0	45401	0.00	230.00	XYLENE BASE ACIDS
0	45402	0.04	122.13	BENZOIC ACID
0	45403	0.00	166.14	TEREPHTHALIC ACID
0	45451	0.06	194.19	DIMETHYL PHTHALATE
0	45452	0.04	278.35	DIBUTYL PHTHALATE
0	45455	0.21	178.23	BUTYL BENZOATE
0	45456	0.05	171.22	BUTYLISOPROPYLPHTHALATE
0	45477	0.00	192.00	BUTYLBENZYLPHTHALATE
0	45501	0.02	106.13	BENZALDEHYDE
0	45502	0.00	120.16	P-TOLUALDEHYDE
0	45503	0.37	96.09	2-FURFURAL
0	45601	0.20	148.00	PHTHALIC ANHYDRIDE
0	45605	0.38	108.14	CRESOL
0	45701	0.79	93.13	ANILINE

NOTE: 'H' denotes a header record (contains weight percents of NO, NO2, and formaldehyde)

(continued)

TABLE C-1. (Continued)

Profile Number	SAROAD Code	Weight Percent	Molecular Weight	Species Name
0	45702	0.33	123.11	NITROBENZENE
0	45703	0.01	207.02	2,2 DICHLORONITROANILINE
0	45705	0.01	247.02	BROMODINITROBENZENE
0	45731	0.66	174.17	TOLUENE DIISOCYANATE
0	45740	0.04	93.13	TOTAL AROMATIC AMINES
0	45750	0.40	68.12	PIPERYLENE
0	45801	0.71	112.56	CHLOROBENZENE
0	45805	0.40	147.01	O-DICHLOROBENZENE
0	45807	0.72	147.01	P-DICHLOROBENZENE
0	45808	0.02	147.01	DICHLOROBENZENES
0	45810	0.42	126.59	BENZYL CHLORIDE
0	45830	0.01	181.45	TRICHLOROBENZENES
0	46102	0.01	208.23	ANTHRAQUINONE
0	46112	0.12	119.13	PHENYL ISOCYANATE
0	46114	0.03	107.17	4-METHYLANILINE
0	46210	0.37	130.19	CREOSOTE
0	46701	0.18	123.11	NAPTHALENE
0	46702	0.04	142.20	METHYL NAPHTHALENES
0	46705	0.02	152.20	ACENAPHTHYLENE
0	46706	0.00	154.21	ACENAPHTHENE
0	46707	0.01	166.22	FLUORENE
0	46708	0.06	178.23	PHENANTHRENE
0	46710	0.01	202.26	FLUORANTHENE
0	46711	0.04	146.23	C2 ALKYL INDAN
0	46713	0.01	202.26	PYRENE
0	46714	0.00	252.32	BENZO(G,H,I) FLUORANTHENE
0	46715	0.01	228.29	CHRYSENE
0	46717	0.00	252.32	BENZO (B) FLUORANTHENE
0	90001	0.50	168.32	DODECENE
0	90010	0.13	106.16	M-XYLENE AND P-XYLENE
0	90011	0.40	54.09	METHYLALLENE
0	90014	0.01	140.22	1-DECENE
0	90019	0.09	222.47	C6H18O3SI3
0	90020	0.03	296.60	C8H24O4SI4
0	90021	0.01	58.12	METHYLPROPANE
0	90026	0.01	86.17	METHYLPENTANE
0	90028	0.03	100.20	METHYLHEXANE
0	90030	0.01	226.45	HEXADECANE
0	90047	0.02	142.28	METHYLNONANE
0	90048	0.02	156.32	METHYLDECANES
0	90049	0.01	170.34	METHYLUNDECANE
0	90050	0.01	136.24	CAMPHENE
0	90051	0.01	136.24	MYRCENE
0	90052	0.01	136.24	B-PHELLANDRENE
0	90053	0.05	136.24	D-LIMONENE
0	90060	0.01	87.18	DIMETHYLBUTANE
0	90064	0.01	99.19	DIMETHYLCYCLOPENTANE
0	90067	0.00	114.23	DIMETHYLHEXANES
0	90070	0.03	140.27	DIMETHYLOCTANES
0	90072	0.01	168.32	METHYLPROPYLCYCLOHEXANES

NOTE: 'H' denotes a header record (contains weight percents of NO, NO2, and formaldehyde)

(continued)

TABLE C-1. (Continued)

	Profile Number	SAROAD Code	Weight Percent	Molecular Weight	Species Name
	0	90076	0.00	211.41	DIMETHYLNONANES
	0	90081	0.02	114.23	ETHYLHEXANE
	0	90083	0.02	126.24	ETHYLMETHYLCYCLOHEXANES
	0	90094	0.02	142.29	TRIMETHYLHEPTANES
	0	90101	0.01	140.27	BUTYLCYCLOHEXANE
	0	90104	0.01	128.26	METHYLOCTANES
	0	90120	0.01	126.24	PROPYLCYCLOHEXANE
	0	98054	0.01	112.22	2,4,4-TRIMETHYL-1-PENTENE
	0	98057	0.01	98.19	ETHYLCYCLOPENTANE
	0	98058	0.01	112.16	TRIMETHYLCYCLOPENTANE
	0	98059	0.05	112.12	DIMETHYLCYCLOHEXANE
	0	98060	0.02	129.27	TRIMETHYLCYCLOHEXANES
	0	98062	0.03	140.27	DIETHYLCYCLOHEXANE
	0	98063	0.01	154.30	N-PENTYLCYCLOHEXANE
	0	98082	0.01	127.05	ETHYLHEPTENE
	0	98083	0.02	182.35	TRIMETHYLDECENE
	0	98090	0.00	112.22	METHYLHEPTENE
	0	98091	0.00	128.26	DIMETHYLHEPTANES
	0	98106	0.02	88.15	ETHYLISOPROPYL ETHER
	0	99912	0.00	119.19	1-METHYL-3-ETHYLBENZENE
	0	99918	0.00	156.32	2-METHYLDECANE
	0	99933	0.10	32.04	DENATURANT
	0	99999	0.25	86.00	UNIDENTIFIED
H	1	95.00	5.00	0.00	
	1	43201	11.00	16.04	METHANE
	1	43212	14.00	58.12	N-BUTANE
	1	43231	5.00	86.17	HEXANE
	1	43502	42.00	30.03	FORMALDEHYDE
	1	43551	28.00	58.08	ACETONE
H	2	95.00	5.00	0.00	
	2	43105	5.20	86.17	ISOMERS OF HEXANE
	2	43106	2.60	100.20	ISOMERS OF HEPTANE
	2	43107	4.70	114.23	ISOMERS OF OCTANE
	2	43122	5.50	72.15	ISOMERS OF PENTANE
	2	43204	1.20	44.09	PROPANE
	2	43212	12.20	58.12	N-BUTANE
	2	43214	4.10	58.12	ISO-BUTANE
	2	43220	4.70	72.15	N-PENTANE
	2	43231	10.80	86.17	HEXANE
	2	43232	0.30	100.20	HEPTANE
	2	43502	48.70	30.03	FORMALDEHYDE
H	3	95.00	5.00	0.00	
	3	43105	1.00	86.17	ISOMERS OF HEXANE
	3	43122	9.00	72.15	ISOMERS OF PENTANE
	3	43201	56.00	16.04	METHANE
	3	43204	4.00	44.09	PROPANE
	3	43212	9.00	58.12	N-BUTANE
	3	43220	6.00	72.15	N-PENTANE
	3	43248	1.00	84.16	CYCLOHEXANE
	3	43502	8.00	30.03	FORMALDEHYDE

NOTE: 'H' denotes a header record (contains weight percents of NO, NO2, and formaldehyde)

(continued)

TABLE C-1. (Continued)

	Profile Number	SAROAD Code	Weight Percent	Molecular Weight	Species Name
	3	45201	4.00	78.11	BENZENE
	3	45202	2.00	92.13	TOLUENE
H	4	95.00	5.00	0.00	
	4	43201	7.60	16.04	METHANE
	4	43202	20.90	30.07	ETHANE
	4	43204	18.90	44.09	PROPANE
	4	43205	17.50	42.08	PROPENE
	4	43212	23.10	58.12	N-BUTANE
	4	43214	4.40	58.12	ISO-BUTANE
	4	43502	7.60	30.03	FORMALDEHYDE
H	5	97.00	3.00	0.00	
	5	43201	82.80	16.04	METHANE
	5	43202	2.50	30.07	ETHANE
	5	43203	11.70	28.05	ETHYLENE
	5	43205	0.30	42.08	PROPENE
	5	43206	0.80	26.04	ACETYLENE
	5	45201	1.90	78.11	BENZENE
H	7	94.00	6.00	0.00	
	7	43201	70.00	16.04	METHANE
	7	43502	30.00	30.03	FORMALDEHYDE
H	8	95.00	5.00	0.00	
	8	43201	11.60	16.04	METHANE
	8	43202	2.80	30.07	ETHANE
	8	43203	28.70	28.05	ETHYLENE
	8	43205	17.30	42.08	PROPENE
	8	43206	11.30	26.04	ACETYLENE
	8	43213	13.40	56.10	BUTENE
	8	43218	7.00	54.09	1,3-BUTADIENE
	8	45201	7.90	78.11	BENZENE
H	9	90.00	10.00	0.00	
	9	43201	11.60	16.04	METHANE
	9	43202	2.80	30.07	ETHANE
	9	43203	28.70	28.05	ETHYLENE
	9	43205	17.30	42.08	PROPENE
	9	43206	11.30	26.04	ACETYLENE
	9	43213	13.40	56.10	BUTENE
	9	43218	7.00	54.09	1,3-BUTADIENE
	9	45201	7.90	78.11	BENZENE
H	11	95.00	5.00	0.00	
	11	43201	45.30	16.04	METHANE
	11	43202	8.00	30.07	ETHANE
	11	43203	27.70	28.05	ETHYLENE
	11	43204	0.50	44.09	PROPANE
	11	43205	1.90	42.08	PROPENE
	11	43206	1.20	26.04	ACETYLENE
	11	43213	0.10	56.10	BUTENE
	11	43218	0.50	54.09	1,3-BUTADIENE
	11	45201	14.10	78.11	BENZENE
	11	45202	0.70	92.13	TOLUENE
H	12	95.00	5.00	0.00	

NOTE: 'H' denotes a header record (contains weight percents of NO, NO2, and formaldehyde)

(continued)

TABLE C-1. (Continued)

	Profile Number	SAROAD Code	Weight Percent	Molecular Weight	Species Name
	12	43201	15.80	16.04	METHANE
	12	43822	84.20	92.00	TRIMETHYLFLUOROSILANE
H	13	95.00	5.00	0.00	
	13	43201	73.30	16.04	METHANE
	13	43202	3.00	30.07	ETHANE
	13	43203	5.90	28.05	ETHYLENE
	13	43205	3.00	42.08	PROPENE
	13	43206	14.80	26.04	ACETYLENE
H	14	95.00	5.00	0.00	
	14	43231	7.00	86.17	HEXANE
	14	43232	35.80	100.20	HEPTANE
	14	43822	40.00	92.00	TRIMETHYLFLUOROSILANE
	14	45201	13.60	78.11	BENZENE
	14	45202	3.60	92.13	TOLUENE
H	16	95.00	5.00	0.00	
	16	43201	11.10	16.04	METHANE
	16	43204	39.90	44.09	PROPANE
	16	43822	49.00	92.00	TRIMETHYLFLUOROSILANE
H	23	95.00	5.00	0.00	
	23	43105	12.00	86.17	ISOMERS OF HEXANE
	23	43106	11.00	100.20	ISOMERS OF HEPTANE
	23	43107	1.00	114.23	ISOMERS OF OCTANE
	23	43202	1.00	30.07	ETHANE
	23	43203	2.00	28.05	ETHYLENE
	23	43204	13.00	44.09	PROPANE
	23	43212	18.00	58.12	N-BUTANE
	23	43214	8.00	58.12	ISO-BUTANE
	23	43220	18.00	72.15	N-PENTANE
	23	43231	2.00	86.17	HEXANE
	23	43232	14.00	100.20	HEPTANE
H	24	90.00	10.00	0.00	
	24	43105	3.40	86.17	ISOMERS OF HEXANE
	24	43107	7.40	114.23	ISOMERS OF OCTANE
	24	43115	2.90	98.19	C-7 CYCLOPARAFFINS
	24	43116	0.40	112.23	C-8 CYCLOPARAFFINS
	24	43117	1.50	126.26	C-9 CYCLOPARAFFINS
	24	43121	0.50	70.13	ISOMERS OF PENTENE
	24	43122	1.10	72.15	ISOMERS OF PENTANE
	24	43201	21.30	16.04	METHANE
	24	43202	5.40	30.07	ETHANE
	24	43203	0.30	28.05	ETHYLENE
	24	43204	10.20	44.09	PROPANE
	24	43205	2.00	42.08	PROPENE
	24	43212	11.60	58.12	N-BUTANE
	24	43213	7.00	56.10	BUTENE
	24	43214	0.70	58.12	ISO-BUTANE
	24	43220	6.30	72.15	N-PENTANE
	24	43224	3.20	70.13	1-PENTENE
	24	43231	4.90	86.17	HEXANE
	24	43232	2.00	100.20	HEPTANE

NOTE: 'H' denotes a header record (contains weight percents of NO, NO2, and formaldehyde)

(continued)

TABLE C-1. (Continued)

	Profile Number	SAROAD Code	Weight Percent	Molecular Weight	Species Name
	24	43233	2.70	114.23	OCTANE
	24	43242	2.50	70.14	CYCLOPENTANE
	24	45201	0.80	78.11	BENZENE
	24	45202	1.90	92.13	TOLUENE
H	25	95.00	5.00	0.00	
	25	43105	1.00	86.17	ISOMERS OF HEXANE
	25	43122	9.00	72.15	ISOMERS OF PENTANE
	25	43201	56.00	16.04	METHANE
	25	43204	4.00	44.09	PROPANE
	25	43212	9.00	58.12	N-BUTANE
	25	43220	6.00	72.15	N-PENTANE
	25	43248	1.00	84.16	CYCLOHEXANE
	25	43502	8.00	30.03	FORMALDEHYDE
	25	45201	4.00	78.11	BENZENE
	25	45202	2.00	92.13	TOLUENE
H	26	95.00	5.00	0.00	
	26	43105	8.10	86.17	ISOMERS OF HEXANE
	26	43115	3.70	98.19	C-7 CYCLOPARAFFINS
	26	43122	5.70	72.15	ISOMERS OF PENTANE
	26	43201	15.70	16.04	METHANE
	26	43202	4.60	30.07	ETHANE
	26	43203	2.00	28.05	ETHYLENE
	26	43204	5.50	44.09	PROPANE
	26	43205	3.90	42.08	PROPENE
	26	43212	10.10	58.12	N-BUTANE
	26	43213	5.90	56.10	BUTENE
	26	43214	11.20	58.12	ISO-BUTANE
	26	43220	5.30	72.15	N-PENTANE
	26	43231	8.80	86.17	HEXANE
	26	45201	9.50	78.11	BENZENE
H	29	85.00	15.00	0.00	
	29	43105	13.00	86.17	ISOMERS OF HEXANE
	29	43201	36.00	16.04	METHANE
	29	43502	51.00	30.03	FORMALDEHYDE
H	31	95.00	5.00	0.00	
	31	43105	12.20	86.17	ISOMERS OF HEXANE
	31	43115	16.90	98.19	C-7 CYCLOPARAFFINS
	31	43116	5.20	112.23	C-8 CYCLOPARAFFINS
	31	43122	10.10	72.15	ISOMERS OF PENTANE
	31	43201	2.90	16.04	METHANE
	31	43202	1.70	30.07	ETHANE
	31	43204	5.90	44.09	PROPANE
	31	43212	14.30	58.12	N-BUTANE
	31	43214	4.50	58.12	ISO-BUTANE
	31	43220	12.00	72.15	N-PENTANE
	31	43231	11.90	86.17	HEXANE
	31	45201	2.40	78.11	BENZENE
H	35	95.00	5.00	0.00	
	35	43122	100.00	72.15	ISOMERS OF PENTANE
H	39	95.00	5.00	0.00	

NOTE: 'H' denotes a header record (contains weight percents of NO, NO2, and formaldehyde)

(continued)

TABLE C-1. (Continued)

	Profile Number	SAROAD Code	Weight Percent	Molecular Weight	Species Name
	39	43105	1.00	86.17	ISOMERS OF HEXANE
	39	43106	0.10	100.20	ISOMERS OF HEPTANE
	39	43122	8.60	72.15	ISOMERS OF PENTANE
	39	43201	13.30	16.04	METHANE
	39	43202	5.60	30.07	ETHANE
	39	43204	16.00	44.09	PROPANE
	39	43205	8.80	42.08	PROPENE
	39	43212	23.20	58.12	N-BUTANE
	39	43213	1.20	56.10	BUTENE
	39	43214	10.00	58.12	ISO-BUTANE
	39	43220	7.60	72.15	N-PENTANE
	39	43231	4.60	86.17	HEXANE
H	47	95.00	5.00	0.00	
	47	43202	4.10	30.07	ETHANE
	47	43204	90.40	44.09	PROPANE
	47	43205	5.10	42.08	PROPENE
	47	43214	0.40	58.12	ISO-BUTANE
H	51	95.00	5.00	0.00	
	51	43201	20.00	16.04	METHANE
	51	43202	30.00	30.07	ETHANE
	51	43204	30.00	44.09	PROPANE
	51	43502	20.00	30.03	FORMALDEHYDE
H	66	95.00	5.00	0.00	
	66	43367	3.00	106.12	GLYCOL ETHER
	66	43551	38.70	58.08	ACETONE
	66	43552	41.60	72.10	METHYL ETHYL KETONE
	66	43560	16.70	100.16	METHYL ISOBUTYL KETONE
H	68	95.00	5.00	0.00	
	68	43205	100.00	42.08	PROPENE
H	72	95.00	5.00	0.00	
	72	43118	25.50	114.00	MINERAL SPIRITS
	72	43248	5.00	84.16	CYCLOHEXANE
	72	43301	5.00	32.04	METHYL ALCOHOL
	72	43302	2.50	46.07	ETHYL ALCOHOL
	72	43304	38.00	60.09	ISO-PROPYL ALCOHOL
	72	43305	3.00	74.12	N-BUTYL ALCOHOL
	72	43435	4.00	116.16	N-BUTYL ACETATE
	72	43551	5.50	58.08	ACETONE
	72	43552	5.00	72.10	METHYL ETHYL KETONE
	72	45106	3.50	134.21	ISOMERS OF DIETHYLBENZENE
	72	45203	3.00	106.16	ETHYLBENZENE
H	76	95.00	5.00	0.00	
	76	43105	8.10	86.17	ISOMERS OF HEXANE
	76	43115	15.40	98.19	C-7 CYCLOPARAFFINS
	76	43116	1.60	112.23	C-8 CYCLOPARAFFINS
	76	43118	15.00	114.00	MINERAL SPIRITS
	76	43122	3.10	72.15	ISOMERS OF PENTANE
	76	43204	1.80	44.09	PROPANE
	76	43212	4.40	58.12	N-BUTANE
	76	43214	1.40	58.12	ISO-BUTANE

NOTE: 'H' denotes a header record (contains weight percents of NO, NO2, and formaldehyde)

(continued)

TABLE C-1. (Continued)

	Profile Number	SAROAD Code	Weight Percent	Molecular Weight	Species Name
	76	43220	3.20	72.15	N-PENTANE
	76	43231	3.70	86.17	HEXANE
	76	43805	10.00	173.85	METHYLENE BROMIDE
	76	45102	15.00	106.16	ISOMERS OF XYLENE
	76	45201	12.30	78.11	BENZENE
	76	45202	5.00	92.13	TOLUENE
H	78	95.00	5.00	0.00	
	78	43815	100.00	99.00	ETHYLENE DICHLORIDE
H	79	95.00	5.00	0.00	
	79	43120	8.90	56.10	ISOMERS OF BUTENE
	79	43203	21.60	28.05	ETHYLENE
	79	43205	9.00	42.08	PROPENE
	79	43206	1.00	26.04	ACETYLENE
	79	43213	4.10	56.10	BUTENE
	79	43248	1.80	84.16	CYCLOHEXANE
	79	43301	5.40	32.04	METHYL ALCOHOL
	79	43302	1.40	46.07	ETHYL ALCOHOL
	79	43304	2.50	60.09	ISO-PROPYL ALCOHOL
	79	43305	0.50	74.12	N-BUTYL ALCOHOL
	79	43438	0.80	100.11	ETHYL ACRYLATE
	79	43502	1.70	30.03	FORMALDEHYDE
	79	43503	0.70	44.05	ACETALDEHYDE
	79	43510	0.80	72.12	BUTYRALDEHYDE
	79	43601	4.60	44.05	ETHYLENE OXIDE
	79	43602	1.40	58.08	PROPYLENE OXIDE
	79	43704	3.00	53.06	ACRYLONITRILE
	79	43801	0.90	50.49	METHYL CHLORIDE
	79	43812	7.20	64.52	ETHYL CHLORIDE
	79	43860	0.60	62.50	VINYL CHLORIDE
	79	45102	1.30	106.16	ISOMERS OF XYLENE
	79	45201	10.00	78.11	BENZENE
	79	45202	4.10	92.13	TOLUENE
	79	45220	3.40	104.14	STYRENE
	79	45300	2.00	94.11	PHENOL
	79	45401	1.30	230.00	XYLENE BASE ACIDS
H	85	95.00	5.00	0.00	
	85	43817	100.00	165.83	PERCHLOROETHYLENE
H	87	95.00	5.00	0.00	
	87	43814	100.00	133.42	1,1,1-TRICHLOROETHANE
H	88	95.00	5.00	0.00	
	88	43811	100.00	137.38	TRICHLOROFLUOROMETHANE
H	89	95.00	5.00	0.00	
	89	43820	100.00	133.42	1,1,2-TRICHLOROETHANE
H	90	95.00	5.00	0.00	
	90	45202	100.00	92.13	TOLUENE
H	100	95.00	5.00	0.00	
	100	43232	0.10	100.20	HEPTANE
	100	43233	0.50	114.23	OCTANE
	100	43235	4.70	128.25	NONANE
	100	43238	19.60	142.28	N-DECANE

NOTE: 'H' denotes a header record (contains weight percents of NO, NO2, and formaldehyde)

(continued)

TABLE C-1. (Continued)

	Profile Number	SAROAD Code	Weight Percent	Molecular Weight	Species Name
	100	43241	20.30	156.31	N-UNDECANE
	100	43255	18.20	170.33	N-DODECANE
	100	43258	17.70	184.36	N-TRIDECANE
	100	43259	11.70	198.38	N-TETRADECANE
	100	43260	7.20	212.41	N-PENTADECANE
H	121	85.00	15.00	0.00	
	121	43121	11.80	70.13	ISOMERS OF PENTENE
	121	43203	19.40	28.05	ETHYLENE
	121	43204	1.90	44.09	PROPANE
	121	43206	1.90	26.04	ACETYLENE
	121	43212	1.90	58.12	N-BUTANE
	121	43213	5.90	56.10	BUTENE
	121	43214	1.90	58.12	ISO-BUTANE
	121	43220	1.90	72.15	N-PENTANE
	121	43224	11.80	70.13	1-PENTENE
	121	43231	13.90	86.17	HEXANE
	121	43232	13.90	100.20	HEPTANE
	121	43233	13.80	114.23	OCTANE
H	122	85.00	15.00	0.00	
	122	43201	80.40	16.04	METHANE
	122	43202	2.70	30.07	ETHANE
	122	43203	8.70	28.05	ETHYLENE
	122	43205	0.50	42.08	PROPENE
	122	45201	7.70	78.11	BENZENE
H	127	95.00	5.00	0.00	
	127	43367	3.00	106.12	GLYCOL ETHER
	127	43551	38.70	58.08	ACETONE
	127	43552	41.60	72.10	METHYL ETHYL KETONE
	127	43560	16.70	100.16	METHYL ISOBUTYL KETONE
H	166	95.00	5.00	0.00	
	166	43201	63.00	16.04	METHANE
	166	43202	24.00	30.07	ETHANE
	166	43204	12.00	44.09	PROPANE
	166	43212	1.00	58.12	N-BUTANE
H	182	95.00	5.00	0.00	
	182	43118	51.00	114.00	MINERAL SPIRITS
	182	43248	10.00	84.16	CYCLOHEXANE
	182	43301	6.00	32.04	METHYL ALCOHOL
	182	43304	6.00	60.09	ISO-PROPYL ALCOHOL
	182	43305	6.00	74.12	N-BUTYL ALCOHOL
	182	43435	8.00	116.16	N-BUTYL ACETATE
	182	45106	7.00	134.21	ISOMERS OF DIETHYLBENZENE
	182	45203	6.00	106.16	ETHYLBENZENE
H	183	95.00	5.00	0.00	
	183	43118	83.00	114.00	MINERAL SPIRITS
	183	45102	4.00	106.16	ISOMERS OF XYLENE
	183	45202	13.00	92.13	TOLUENE
H	195	95.00	5.00	0.00	
	195	43201	100.00	16.04	METHANE
H	197	95.00	5.00	0.00	

NOTE: 'H' denotes a header record (contains weight percents of NO, NO2, and formaldehyde)

(continued)

TABLE C-1. (Continued)

	Profile Number	SAROAD Code	Weight Percent	Molecular Weight	Species Name
	197	43214	5.30	58.12	ISO-BUTANE
	197	43302	36.90	46.07	ETHYL ALCOHOL
	197	43304	38.50	60.09	ISO-PROPYL ALCOHOL
	197	43367	8.30	106.12	GLYCOL ETHER
	197	43369	3.20	76.00	PROPYLENE GLYCOL
	197	43435	1.30	116.16	N-BUTYL ACETATE
	197	43502	0.60	30.03	FORMALDEHYDE
	197	43551	1.40	58.08	ACETONE
	197	45101	4.50	114.00	NAPHTHA
H	202	95.00	5.00	0.00	
	202	43123	0.10	136.23	TERPENES
	202	43201	98.70	16.04	METHANE
	202	43202	0.10	30.07	ETHANE
	202	43204	0.10	44.09	PROPANE
	202	43212	0.20	58.12	N-BUTANE
	202	43214	0.10	58.12	ISO-BUTANE
	202	43220	0.10	72.15	N-PENTANE
	202	43242	0.10	70.14	CYCLOPENTANE
	202	43817	0.30	165.83	PERCHLOROETHYLENE
	202	45102	0.10	106.16	ISOMERS OF XYLENE
	202	45202	0.10	92.13	TOLUENE
H	203	95.00	5.00	0.00	
	203	43201	70.00	16.04	METHANE
	203	43202	20.00	30.07	ETHANE
	203	43302	2.00	46.07	ETHYL ALCOHOL
	203	43304	2.00	60.09	ISO-PROPYL ALCOHOL
	203	43434	2.00	102.15	N-PROPYL ACETATE
	203	43551	2.00	58.08	ACETONE
	203	43721	1.00	45.09	ETHYLAMINE
	203	43740	1.00	59.11	TRIMETHYLAMINE
H	217	95.00	5.00	0.00	
	217	43201	40.90	16.04	METHANE
	217	43202	1.40	30.07	ETHANE
	217	43203	2.80	28.05	ETHYLENE
	217	43205	5.50	42.08	PROPENE
	217	43213	6.40	56.10	BUTENE
	217	45201	43.00	78.11	BENZENE
H	219	95.00	5.00	0.00	
	219	43551	100.00	58.08	ACETONE
H	220	95.00	5.00	0.00	
	220	43433	100.00	88.10	ETHYL ACETATE
H	221	95.00	5.00	0.00	
	221	43552	100.00	72.10	METHYL ETHYL KETONE
H	222	95.00	5.00	0.00	
	222	43452	100.00	132.16	CELLOSOLVE ACETATE
H	223	95.00	5.00	0.00	
	223	45102	100.00	106.16	ISOMERS OF XYLENE
H	225	95.00	5.00	0.00	
	225	43107	0.80	114.23	ISOMERS OF OCTANE
	225	43108	27.30	128.25	ISOMERS OF NONANE

NOTE: 'H' denotes a header record (contains weight percents of NO, NO2, and formaldehyde)

(continued)

TABLE C-1. (Continued)

	Profile Number	SAROAD Code	Weight Percent	Molecular Weight	Species Name
	225	43109	69.30	142.28	ISOMERS OF DECANE
	225	43110	2.60	156.30	ISOMERS OF UNDECANE
H	226	95.00	5.00	0.00	
	226	43302	100.00	46.07	ETHYL ALCOHOL
H	227	95.00	5.00	0.00	
	227	43304	100.00	60.09	ISO-PROPYL ALCOHOL
H	228	95.00	5.00	0.00	
	228	43444	100.00	102.13	ISOPROPYL ACETATE
H	229	95.00	5.00	0.00	
	229	43119	100.00	114.00	LACTOL SPIRITS
H	230	95.00	5.00	0.00	
	230	43231	100.00	86.17	HEXANE
H	271	95.00	5.00	0.00	
	271	43824	100.00	131.40	TRICHLOROETHYLENE
H	272	95.00	5.00	0.00	
	272	43106	4.70	100.20	ISOMERS OF HEPTANE
	272	43107	0.80	114.23	ISOMERS OF OCTANE
	272	43115	43.20	98.19	C-7 CYCLOPARAFFINS
	272	43116	6.00	112.23	C-8 CYCLOPARAFFINS
	272	43231	5.80	86.17	HEXANE
	272	43232	1.90	100.20	HEPTANE
	272	43233	0.40	114.23	OCTANE
	272	43248	16.30	84.16	CYCLOHEXANE
	272	43262	17.70	84.16	METHYLCYCLOPENTANE
	272	45201	2.80	78.11	BENZENE
	272	45202	0.40	92.13	TOLUENE
H	273	95.00	5.00	0.00	
	273	43105	24.20	86.17	ISOMERS OF HEXANE
	273	43106	0.20	100.20	ISOMERS OF HEPTANE
	273	43231	33.60	86.17	HEXANE
	273	43242	0.20	70.14	CYCLOPENTANE
	273	43248	0.40	84.16	CYCLOHEXANE
	273	43262	33.70	84.16	METHYLCYCLOPENTANE
	273	45201	7.70	78.11	BENZENE
H	274	95.00	5.00	0.00	
	274	43115	99.84	98.19	C-7 CYCLOPARAFFINS
	274	43116	0.08	112.23	C-8 CYCLOPARAFFINS
	274	43248	0.04	84.16	CYCLOHEXANE
	274	43262	0.04	84.16	METHYLCYCLOPENTANE
H	275	95.00	5.00	0.00	
	275	43802	100.00	84.94	DICHLOROMETHANE
H	277	95.00	5.00	0.00	
	277	43821	100.00	187.38	TRICHLOROTRIFLUOROETHANE
H	282	95.00	5.00	0.00	
	282	45101	100.00	114.00	NAPHTHA
H	288	95.00	5.00	0.00	
	288	43435	100.00	116.16	N-BUTYL ACETATE
H	289	95.00	5.00	0.00	
	289	43305	100.00	74.12	N-BUTYL ALCOHOL
H	290	95.00	5.00	0.00	

NOTE: 'H' denotes a header record (contains weight percents of NO, NO2, and formaldehyde)

(continued)

TABLE C-1. (Continued)

	Profile Number	SAROAD Code	Weight Percent	Molecular Weight	Species Name
	290	43311	100.00	90.12	CELLOSOLVE
H	291	95.00	5.00	0.00	
	291	43301	100.00	32.04	METHYL ALCOHOL
H	292	95.00	5.00	0.00	
	292	43450	100.00	73.09	DIMETHYL FORMAMIDE
H	296	95.00	5.00	0.00	
	296	43115	1.30	98.19	C-7 CYCLOPARAFFINS
	296	43116	0.50	112.23	C-8 CYCLOPARAFFINS
	296	43122	1.50	72.15	ISOMERS OF PENTANE
	296	43201	6.20	16.04	METHANE
	296	43202	5.60	30.07	ETHANE
	296	43204	17.60	44.09	PROPANE
	296	43212	27.10	58.12	N-BUTANE
	296	43214	1.50	58.12	ISO-BUTANE
	296	43220	14.60	72.15	N-PENTANE
	296	43231	7.90	86.17	HEXANE
	296	43232	9.20	100.20	HEPTANE
	296	43233	6.90	114.23	OCTANE
	296	45201	0.10	78.11	BENZENE
H	297	95.00	5.00	0.00	
	297	43105	5.10	86.17	ISOMERS OF HEXANE
	297	43106	5.00	100.20	ISOMERS OF HEPTANE
	297	43107	0.40	114.23	ISOMERS OF OCTANE
	297	43122	11.20	72.15	ISOMERS OF PENTANE
	297	43201	8.80	16.04	METHANE
	297	43202	2.70	30.07	ETHANE
	297	43204	16.10	44.09	PROPANE
	297	43212	20.80	58.12	N-BUTANE
	297	43214	9.30	58.12	ISO-BUTANE
	297	43220	10.10	72.15	N-PENTANE
	297	43231	4.70	86.17	HEXANE
	297	43232	2.00	100.20	HEPTANE
	297	45201	2.40	78.11	BENZENE
	297	45202	1.40	92.13	TOLUENE
H	299	95.00	5.00	0.00	
	299	43248	100.00	84.16	CYCLOHEXANE
H	301	95.00	5.00	0.00	
	301	43232	100.00	100.20	HEPTANE
H	304	95.00	5.00	0.00	
	304	43303	100.00	60.10	N-PROPYL ALCOHOL
H	305	95.00	5.00	0.00	
	305	43201	2.60	16.04	METHANE
	305	43202	3.70	30.07	ETHANE
	305	43204	15.80	44.09	PROPANE
	305	43212	30.20	58.12	N-BUTANE
	305	43220	18.50	72.15	N-PENTANE
	305	43231	8.80	86.17	HEXANE
	305	43232	10.80	100.20	HEPTANE
	305	43233	9.60	114.23	OCTANE
H	307	85.00	15.00	0.00	

NOTE: 'H' denotes a header record (contains weight percents of NO, NO2, and formaldehyde)

(continued)

TABLE C-1. (Continued)

	Profile Number	SAROAD Code	Weight Percent	Molecular Weight	Species Name
	307	43120	0.92	56.10	ISOMERS OF BUTENE
	307	43122	0.15	72.15	ISOMERS OF PENTANE
	307	43201	9.82	16.04	METHANE
	307	43202	10.47	30.07	ETHANE
	307	43203	19.11	28.05	ETHYLENE
	307	43204	0.35	44.09	PROPANE
	307	43205	3.93	42.08	PROPENE
	307	43206	8.40	26.04	ACETYLENE
	307	43209	0.41	40.06	METHYLACETYLENE (PROPYNE)
	307	43212	0.24	58.12	N-BUTANE
	307	43213	0.81	56.10	BUTENE
	307	43214	0.11	58.12	ISO-BUTANE
	307	43218	0.52	54.09	1,3-BUTADIENE
	307	43223	0.17	70.13	3-METHYL-1-BUTENE
	307	99999	44.59	86.00	UNIDENTIFIED
H	316	95.00	5.00	0.00	
	316	43105	1.60	86.17	ISOMERS OF HEXANE
	316	43106	0.80	100.20	ISOMERS OF HEPTANE
	316	43107	0.40	114.23	ISOMERS OF OCTANE
	316	43108	0.50	128.25	ISOMERS OF NONANE
	316	43109	0.30	142.28	ISOMERS OF DECANE
	316	43115	0.20	98.19	C-7 CYCLOPARAFFINS
	316	43117	0.10	126.26	C-9 CYCLOPARAFFINS
	316	43122	7.80	72.15	ISOMERS OF PENTANE
	316	43201	28.60	16.04	METHANE
	316	43202	5.80	30.07	ETHANE
	316	43204	11.50	44.09	PROPANE
	316	43205	0.10	42.08	PROPENE
	316	43212	18.30	58.12	N-BUTANE
	316	43214	7.40	58.12	ISO-BUTANE
	316	43220	7.70	72.15	N-PENTANE
	316	43231	3.40	86.17	HEXANE
	316	43232	1.40	100.20	HEPTANE
	316	43233	1.80	114.23	OCTANE
	316	43235	0.60	128.25	NONANE
	316	43238	0.80	142.28	N-DECANE
	316	43248	0.10	84.16	CYCLOHEXANE
	316	45102	0.20	106.16	ISOMERS OF XYLENE
	316	45201	0.10	78.11	BENZENE
	316	45202	0.50	92.13	TOLUENE
H	321	95.00	5.00	0.00	
	321	43105	5.50	86.17	ISOMERS OF HEXANE
	321	43106	4.10	100.20	ISOMERS OF HEPTANE
	321	43107	2.80	114.23	ISOMERS OF OCTANE
	321	43108	3.10	128.25	ISOMERS OF NONANE
	321	43109	1.90	142.28	ISOMERS OF DECANE
	321	43115	1.10	98.19	C-7 CYCLOPARAFFINS
	321	43116	0.10	112.23	C-8 CYCLOPARAFFINS
	321	43117	0.80	126.26	C-9 CYCLOPARAFFINS
	321	43122	6.60	72.15	ISOMERS OF PENTANE

NOTE: 'H' denotes a header record (contains weight percents of NO, NO2, and formaldehyde)

(continued)

TABLE C-1. (Continued)

	Profile Number	SAROAD Code	Weight Percent	Molecular Weight	Species Name
	321	43201	3.30	16.04	METHANE
	321	43202	1.20	30.07	ETHANE
	321	43204	3.70	44.09	PROPANE
	321	43212	8.10	58.12	N-BUTANE
	321	43214	0.80	58.12	ISO-BUTANE
	321	43220	11.10	72.15	N-PENTANE
	321	43231	11.00	86.17	HEXANE
	321	43232	8.50	100.20	HEPTANE
	321	43233	12.00	114.23	OCTANE
	321	43235	3.90	128.25	NONANE
	321	43238	5.10	142.28	N-DECANE
	321	43248	0.50	84.16	CYCLOHEXANE
	321	45102	1.30	106.16	ISOMERS OF XYLENE
	321	45201	0.50	78.11	BENZENE
	321	45202	3.00	92.13	TOLUENE
H	332	95.00	5.00	0.00	
	332	43201	17.10	16.04	METHANE
	332	43203	2.00	28.05	ETHYLENE
	332	43205	33.60	42.08	PROPENE
	332	43213	13.60	56.10	BUTENE
	332	43224	11.90	70.13	1-PENTENE
	332	43502	21.80	30.03	FORMALDEHYDE
H	333	95.00	5.00	0.00	
	333	43201	37.66	16.04	METHANE
	333	43202	9.99	30.07	ETHANE
	333	43204	3.30	44.09	PROPANE
	333	43212	11.49	58.12	N-BUTANE
	333	43214	1.80	58.12	ISO-BUTANE
	333	43304	0.90	60.09	ISO-PROPYL ALCOHOL
	333	43802	34.87	84.94	DICHLOROMETHANE
H	1001	95.00	5.00	0.00	
	1001	43105	0.02	86.17	ISOMERS OF HEXANE
	1001	43106	0.04	100.20	ISOMERS OF HEPTANE
	1001	43107	0.02	114.23	ISOMERS OF OCTANE
	1001	43108	0.01	128.25	ISOMERS OF NONANE
	1001	43109	0.02	142.28	ISOMERS OF DECANE
	1001	43120	0.26	56.10	ISOMERS OF BUTENE
	1001	43122	0.13	72.15	ISOMERS OF PENTANE
	1001	43124	0.04	127.05	C9 OLEFINS
	1001	43125	0.02	140.27	C10 OLEFINS
	1001	43201	76.69	16.04	METHANE
	1001	43202	14.00	30.07	ETHANE
	1001	43203	0.63	28.05	ETHYLENE
	1001	43204	2.91	44.09	PROPANE
	1001	43205	1.69	42.08	PROPENE
	1001	43206	0.32	26.04	ACETYLENE
	1001	43212	1.00	58.12	N-BUTANE
	1001	43214	0.43	58.12	ISO-BUTANE
	1001	43215	0.02	56.10	ISOBUTYLENE
	1001	43216	0.13	56.11	T-2-BUTENE

NOTE: 'H' denotes a header record (contains weight percents of NO, NO2, and formaldehyde)

(continued)

TABLE C-1. (Continued)

	Profile Number	SAROAD Code	Weight Percent	Molecular Weight	Species Name
	1001	43217	0.02	56.11	CIS-2-BUTENE
	1001	43220	0.13	72.15	N-PENTANE
	1001	43224	0.01	70.13	1-PENTENE
	1001	43226	0.01	70.13	TRANS-2-PENTENE
	1001	43228	0.01	70.13	2-METHYL-2-BUTENE
	1001	43230	0.02	86.17	3-METHYL PENTANE
	1001	43231	0.02	86.17	HEXANE
	1001	43232	0.02	100.20	HEPTANE
	1001	43233	0.02	114.23	OCTANE
	1001	43235	0.01	128.25	NONANE
	1001	43238	0.01	142.28	N-DECANE
	1001	43241	0.01	156.31	N-UNDECANE
	1001	43242	0.02	70.14	CYCLOPENTANE
	1001	43247	0.01	100.20	2,4-DIMETHYLPENTANE
	1001	43248	0.01	84.16	CYCLOHEXANE
	1001	43261	0.02	98.21	METHYLCYCLOHEXANE
	1001	43262	0.04	84.16	METHYLCYCLOPENTANE
	1001	43264	0.01	98.18	HEPTENE
	1001	43265	0.01	112.21	OCTENE
	1001	43269	0.01	127.05	1-NONENE
	1001	43291	0.01	86.17	2,2-DIMETHYLBUTANE
	1001	43295	0.01	100.20	3-METHYLHEXANE
	1001	43298	0.02	114.23	3-METHYLHEPTANE
	1001	43502	0.81	30.03	FORMALDEHYDE
	1001	43503	0.03	44.05	ACETALDEHYDE
	1001	43511	0.02	72.11	ISOBUTYRALDEHYDE
	1001	45102	0.02	106.16	ISOMERS OF XYLENE
	1001	45109	0.01	134.21	C3/C4/C5 ALKYLBENZENES
	1001	45110	0.01	134.22	C10 AROMATIC
	1001	45201	0.11	78.11	BENZENE
	1001	45202	0.04	92.13	TOLUENE
	1001	45203	0.01	106.16	ETHYLBENZENE
	1001	45204	0.01	106.16	O-XYLENE
	1001	45205	0.01	106.16	M-XYLENE
	1001	45207	0.02	120.19	1,3,5-TRIMETHYLBENZENE
	1001	45208	0.01	120.19	1,2,4-TRIMETHYLBENZENE
	1001	45211	0.01	120.19	O-ETHYLTOLUENE
	1001	45212	0.01	120.19	M-ETHYLTOLUENE
	1001	45225	0.01	120.19	1,2,3-TRIMETHYLBENZENE
	1001	98040	0.02	84.16	2-METHYL-1-PENTENE
H	1002	95.00	5.00	0.00	
	1002	43201	22.40	16.04	METHANE
	1002	43203	1.40	28.05	ETHYLENE
	1002	43204	0.20	44.09	PROPANE
	1002	43206	40.10	26.04	ACETYLENE
	1002	43212	0.20	58.12	N-BUTANE
	1002	43214	0.10	58.12	ISO-BUTANE
	1002	43933	8.90	60.08	CARBONYL SULFIDE
	1002	43934	26.70	76.14	CARBON SULFIDE
H	1003	95.00	5.00	0.00	

NOTE: 'H' denotes a header record (contains weight percents of NO, NO2, and formaldehyde)

(continued)

TABLE C-1. (Continued)

	Profile Number	SAROAD Code	Weight Percent	Molecular Weight	Species Name
	1003	43108	2.79	128.25	ISOMERS OF NONANE
	1003	43232	2.94	100.20	HEPTANE
	1003	43247	1.70	100.20	2,4-DIMETHYLPENTANE
	1003	43248	0.52	84.16	CYCLOHEXANE
	1003	43261	3.61	98.21	METHYLCYCLOHEXANE
	1003	43277	7.20	114.22	2,4-DIMETHYLHEXANE
	1003	43288	1.43	112.23	ETHYLCYCLOHEXANE
	1003	43308	6.48	118.17	BUTYL CELLOSOLVE
	1003	43433	2.04	88.10	ETHYL ACETATE
	1003	43435	9.50	116.16	N-BUTYL ACETATE
	1003	43459	1.26	130.19	C5 ESTER
	1003	43551	1.27	58.08	ACETONE
	1003	43552	0.54	72.10	METHYL ETHYL KETONE
	1003	43560	0.36	100.16	METHYL ISOBUTYL KETONE
	1003	43562	0.83	114.21	METHYL AMYL KETONE
	1003	43563	3.75	114.19	2-METHYL-3-HEXANONE
	1003	45102	3.70	106.16	ISOMERS OF XYLENE
	1003	45104	0.20	120.19	ISOMERS OF ETHYLTOLUENE
	1003	45107	0.11	120.19	TRIMETHYLBENZENE
	1003	45202	37.87	92.13	TOLUENE
	1003	45203	0.54	106.16	ETHYLBENZENE
	1003	45204	4.47	106.16	O-XYLENE
	1003	98057	0.22	98.19	ETHYLCYCLOPENTANE
	1003	98058	0.17	112.16	TRIMETHYLCYCLOPENTANE
	1003	98059	4.01	112.12	DIMETHYLCYCLOHEXANE
	1003	98060	1.66	129.27	TRIMETHYLCYCLOHEXANES
	1003	98090	0.15	112.22	METHYLHEPTENE
	1003	98091	0.67	128.26	DIMETHYLHEPTANES
H	1004	95.00	5.00	0.00	
	1004	45203	10.00	106.16	ETHYLBENZENE
	1004	45220	90.00	104.14	STYRENE
H	1005	95.00	5.00	0.00	
	1005	45220	100.00	104.14	STYRENE
H	1006	95.00	5.00	0.00	
	1006	43603	20.00	98.06	MALEIC ANHYDRIDE
	1006	45204	10.00	106.16	O-XYLENE
	1006	45402	10.00	122.13	BENZOIC ACID
	1006	45601	60.00	148.00	PHTHALIC ANHYDRIDE
H	1007	95.00	5.00	0.00	
	1007	43111	9.59	170.32	ISOMERS OF DODECANE
	1007	43113	3.12	198.38	ISOMERS OF TETRADECANE
	1007	43130	4.16	154.30	C5 SUBSTITUTED CYCLOHEXANE
	1007	43131	3.12	170.32	C6 SUBSTITUTED CYCLOHEXANE
	1007	43238	2.87	142.28	N-DECANE
	1007	43241	7.78	156.31	N-UNDECANE
	1007	43255	18.56	170.33	N-DODECANE
	1007	43467	2.38	154.26	C4 SUBSTITUTED CYCLOHEXANON
	1007	45107	8.89	120.19	TRIMETHYLBENZENE
	1007	45703	3.94	207.02	2,2 DICHLORONITROANILINE
	1007	46701	6.54	123.11	NAPTHALENE

NOTE: 'H' denotes a header record (contains weight percents of NO, NO2, and formaldehyde)

(continued)

TABLE C-1. (Continued)

	Profile Number	SAROAD Code	Weight Percent	Molecular Weight	Species Name
	1007	46702	10.19	142.20	METHYL NAPHTHALENES
	1007	46711	11.21	146.23	C2 ALKYL INDAN
	1007	98063	2.04	154.30	N-PENTYLCYCLOHEXANE
	1007	98083	5.62	182.35	TRIMETHYLDECENE
H	1008	95.00	5.00	0.00	
	1008	43218	60.00	54.09	1,3-BUTADIENE
	1008	45220	40.00	104.14	STYRENE
H	1009	95.00	5.00	0.00	
	1009	43704	60.00	53.06	ACRYLONITRILE
	1009	45220	40.00	104.14	STYRENE
H	1010	95.00	5.00	0.00	
	1010	43105	8.08	86.17	ISOMERS OF HEXANE
	1010	43106	9.48	100.20	ISOMERS OF HEPTANE
	1010	43107	6.99	114.23	ISOMERS OF OCTANE
	1010	43115	1.30	98.19	C-7 CYCLOPARAFFINS
	1010	43116	0.50	112.23	C-8 CYCLOPARAFFINS
	1010	43122	4.29	72.15	ISOMERS OF PENTANE
	1010	43201	46.31	16.04	METHANE
	1010	43202	6.99	30.07	ETHANE
	1010	43204	9.48	44.09	PROPANE
	1010	43212	6.19	58.12	N-BUTANE
	1010	43214	0.30	58.12	ISO-BUTANE
	1010	45201	0.10	78.11	BENZENE
H	1011	95.00	5.00	0.00	
	1011	43105	9.90	86.17	ISOMERS OF HEXANE
	1011	43106	11.60	100.20	ISOMERS OF HEPTANE
	1011	43107	8.70	114.23	ISOMERS OF OCTANE
	1011	43115	1.60	98.19	C-7 CYCLOPARAFFINS
	1011	43116	0.60	112.23	C-8 CYCLOPARAFFINS
	1011	43122	5.60	72.15	ISOMERS OF PENTANE
	1011	43201	37.60	16.04	METHANE
	1011	43202	6.40	30.07	ETHANE
	1011	43204	10.10	44.09	PROPANE
	1011	43212	7.40	58.12	N-BUTANE
	1011	43214	0.40	58.12	ISO-BUTANE
	1011	45201	0.10	78.11	BENZENE
H	1012	95.00	5.00	0.00	
	1012	43105	5.20	86.17	ISOMERS OF HEXANE
	1012	43106	6.10	100.20	ISOMERS OF HEPTANE
	1012	43107	4.60	114.23	ISOMERS OF OCTANE
	1012	43115	0.90	98.19	C-7 CYCLOPARAFFINS
	1012	43116	0.30	112.23	C-8 CYCLOPARAFFINS
	1012	43122	2.10	72.15	ISOMERS OF PENTANE
	1012	43201	61.30	16.04	METHANE
	1012	43202	7.90	30.07	ETHANE
	1012	43204	7.00	44.09	PROPANE
	1012	43212	4.30	58.12	N-BUTANE
	1012	43214	0.20	58.12	ISO-BUTANE
	1012	45201	0.10	78.11	BENZENE
H	1013	95.00	5.00	0.00	

NOTE: 'H' denotes a header record (contains weight percents of NO, NO2, and formaldehyde)

(continued)

TABLE C-1. (Continued)

	Profile Number	SAROAD Code	Weight Percent	Molecular Weight	Species Name
	1013	43110	1.00	156.30	ISOMERS OF UNDECANE
	1013	43238	0.21	142.28	N-DECANE
	1013	43241	0.12	156.31	N-UNDECANE
	1013	43305	20.09	74.12	N-BUTYL ALCOHOL
	1013	43312	0.78	162.18	2-(2-BUTOXYETHOXY)-ETHANOL
	1013	43313	1.46	104.15	1-ETHOXY-2-PROPANOL
	1013	43318	1.01	130.23	2-ETHYL HEXANOL
	1013	43320	0.78	116.16	DIACETONE ALCOHOL
	1013	43370	0.58	62.07	ETHYLENE GLYCOL
	1013	43371	1.43	118.18	HEXYLENE GLYCOL
	1013	43372	0.24	130.23	DIBUTYL ETHER
	1013	43391	0.15	128.19	2-BUTYLTETRAHYDROFURAN
	1013	43453	0.12	86.09	VINYL ACETATE
	1013	43454	0.36	270.46	METHYL PALMITATE
	1013	43457	26.97	76.09	METHYLAL
	1013	43458	28.58	218.24	SUBSTITUTED C9 ESTER (C12)
	1013	43562	1.04	114.21	METHYL AMYL KETONE
	1013	43801	0.55	50.49	METHYL CHLORIDE
	1013	43802	5.52	84.94	DICHLOROMETHANE
	1013	43812	0.62	64.52	ETHYL CHLORIDE
	1013	43835	2.21	92.57	1-CHLOROBUTANE
	1013	43836	0.62	148.68	3-(CHLOROMETHYL)-HEPTANE
	1013	45201	0.36	78.11	BENZENE
	1013	98106	5.20	88.15	ETHYLISOPROPYL ETHER
H	1014	95.00	5.00	0.00	
	1014	43105	4.78	86.17	ISOMERS OF HEXANE
	1014	43106	1.53	100.20	ISOMERS OF HEPTANE
	1014	43107	0.05	114.23	ISOMERS OF OCTANE
	1014	43108	0.02	128.25	ISOMERS OF NONANE
	1014	43120	1.11	56.10	ISOMERS OF BUTENE
	1014	43122	26.79	72.15	ISOMERS OF PENTANE
	1014	43124	0.03	127.05	C9 OLEFINS
	1014	43125	0.00	140.27	C10 OLEFINS
	1014	43202	0.08	30.07	ETHANE
	1014	43204	1.25	44.09	PROPANE
	1014	43212	22.95	58.12	N-BUTANE
	1014	43214	9.83	58.12	ISO-BUTANE
	1014	43216	1.21	56.11	T-2-BUTENE
	1014	43217	0.98	56.11	CIS-2-BUTENE
	1014	43220	8.56	72.15	N-PENTANE
	1014	43223	0.40	70.13	3-METHYL-1-BUTENE
	1014	43224	1.02	70.13	1-PENTENE
	1014	43225	1.93	70.13	2-METHYL-1-BUTENE
	1014	43226	1.61	70.13	TRANS-2-PENTENE
	1014	43227	0.79	70.13	CIS-2-PENTENE
	1014	43228	1.04	70.13	2-METHYL-2-BUTENE
	1014	43230	2.34	86.17	3-METHYL PENTANE
	1014	43231	1.84	86.17	HEXANE
	1014	43232	0.32	100.20	HEPTANE
	1014	43233	0.02	114.23	OCTANE

NOTE: 'H' denotes a header record (contains weight percents of NO, NO2, and formaldehyde)

(continued)

TABLE C-1. (Continued)

	Profile Number	SAROAD Code	Weight Percent	Molecular Weight	Species Name
	1014	43242	0.72	70.14	CYCLOPENTANE
	1014	43245	0.27	84.16	1-HEXENE
	1014	43247	0.51	100.20	2,4-DIMETHYLPENTANE
	1014	43248	0.26	84.16	CYCLOHEXANE
	1014	43250	0.49	114.22	2,2,4-TRIMETHYLPENTANE
	1014	43252	0.08	114.22	2,3,4-TRIMETHYLPENTANE
	1014	43261	0.13	98.21	METHYLCYCLOHEXANE
	1014	43262	1.66	84.16	METHYLCYCLOPENTANE
	1014	43270	0.09	84.16	3-METHYL-T-2-PENTENE
	1014	43271	0.10	128.26	3,5,5-TRIMETHYLHEXANE
	1014	43278	0.11	114.22	2,5-DIMETHYLHEXANE
	1014	43289	0.06	84.16	C6 OLEFINS
	1014	43291	1.23	86.17	2,2-DIMETHYLBUTANE
	1014	43292	0.25	68.11	CYCLOPENTENE
	1014	43293	0.25	84.18	4-METHYL-T-2-PENTENE
	1014	43294	0.06	98.18	C7 OLEFINS
	1014	43295	0.49	100.20	3-METHYLHEXANE
	1014	43298	0.07	114.23	3-METHYLHEPTANE
	1014	43299	0.05	96.17	1-METHYLCYCLOHEXENE
	1014	45102	0.15	106.16	ISOMERS OF XYLENE
	1014	45110	0.01	134.22	C10 AROMATIC
	1014	45201	0.77	78.11	BENZENE
	1014	45202	0.66	92.13	TOLUENE
	1014	45203	0.04	106.16	ETHYLBENZENE
	1014	45204	0.05	106.16	O-XYLENE
	1014	45207	0.02	120.19	1,3,5-TRIMETHYLBENZENE
	1014	45208	0.06	120.19	1,2,4-TRIMETHYLBENZENE
	1014	45211	0.05	120.19	O-ETHYLTOLUENE
	1014	45215	0.00	134.21	TERT-BUTYLBENZENE
	1014	45218	0.00	134.22	M-DIETHYLBENZENE
	1014	45225	0.05	120.19	1,2,3-TRIMETHYLBENZENE
	1014	46712	0.01	116.16	INDENE
	1014	98033	0.02	128.26	2,2,5-TRIMETHYLHEXANE
	1014	98034	0.30	84.16	T-2-HEXENE
	1014	98035	0.42	84.16	C-2-HEXENE
	1014	98054	0.02	112.22	2,4,4-TRIMETHYL-1-PENTENE
H	1015	95.00	5.00	0.00	
	1015	43105	4.03	86.17	ISOMERS OF HEXANE
	1015	43106	3.41	100.20	ISOMERS OF HEPTANE
	1015	43107	1.44	114.23	ISOMERS OF OCTANE
	1015	43108	0.41	128.25	ISOMERS OF NONANE
	1015	43109	0.06	142.28	ISOMERS OF DECANE
	1015	43120	1.28	56.10	ISOMERS OF BUTENE
	1015	43122	16.09	72.15	ISOMERS OF PENTANE
	1015	43124	0.27	127.05	C9 OLEFINS
	1015	43138	0.21	112.23	C-8 OLEFINS
	1015	43202	0.04	30.07	ETHANE
	1015	43204	1.10	44.09	PROPANE
	1015	43212	24.97	58.12	N-BUTANE
	1015	43214	13.94	58.12	ISO-BUTANE

NOTE: 'H' denotes a header record (contains weight percents of NO, NO2, and formaldehyde)

(continued)

TABLE C-1. (Continued)

Profile Number	SAROAD Code	Weight Percent	Molecular Weight	Species Name
1015	43216	1.13	56.11	T-2-BUTENE
1015	43217	0.84	56.11	CIS-2-BUTENE
1015	43220	5.44	72.15	N-PENTANE
1015	43223	0.25	70.13	3-METHYL-1-BUTENE
1015	43224	0.71	70.13	1-PENTENE
1015	43225	0.82	70.13	2-METHYL-1-BUTENE
1015	43226	1.09	70.13	TRANS-2-PENTENE
1015	43227	0.56	70.13	CIS-2-PENTENE
1015	43230	2.25	86.17	3-METHYL PENTANE
1015	43231	1.86	86.17	HEXANE
1015	43232	0.85	100.20	HEPTANE
1015	43233	0.24	114.23	OCTANE
1015	43235	0.03	128.25	NONANE
1015	43238	0.01	142.28	N-DECANE
1015	43242	0.70	70.14	CYCLOPENTANE
1015	43245	0.41	84.16	1-HEXENE
1015	43247	0.70	100.20	2,4-DIMETHYLPENTANE
1015	43248	0.54	84.16	CYCLOHEXANE
1015	43252	0.11	114.22	2,3,4-TRIMETHYLPENTANE
1015	43261	0.54	98.21	METHYLCYCLOHEXANE
1015	43262	2.54	84.16	METHYLCYCLOPENTANE
1015	43265	0.06	112.21	OCTENE
1015	43271	0.45	128.26	3,5,5-TRIMETHYLHEXANE
1015	43278	0.35	114.22	2,5-DIMETHYLHEXANE
1015	43284	0.11	84.16	2-METHYL-2-PENTENE
1015	43289	0.65	84.16	C6 OLEFINS
1015	43291	0.97	86.17	2,2-DIMETHYLBUTANE
1015	43292	0.24	68.11	CYCLOPENTENE
1015	43293	0.20	84.18	4-METHYL-T-2-PENTENE
1015	43294	0.09	98.18	C7 OLEFINS
1015	43295	1.07	100.20	3-METHYLHEXANE
1015	43298	0.44	114.23	3-METHYLHEPTANE
1015	43299	0.18	96.17	1-METHYLCYCLOHEXENE
1015	43820	0.02	133.42	1,1,2-TRICHLOROETHANE
1015	45102	0.76	106.16	ISOMERS OF XYLENE
1015	45109	0.02	134.21	C3/C4/C5 ALKYLBENZENES
1015	45201	1.58	78.11	BENZENE
1015	45202	2.11	92.13	TOLUENE
1015	45203	0.22	106.16	ETHYLBENZENE
1015	45204	0.31	106.16	O-XYLENE
1015	45207	0.03	120.19	1,3,5-TRIMETHYLBENZENE
1015	45208	0.09	120.19	1,2,4-TRIMETHYLBENZENE
1015	45209	0.02	120.19	N-PROPYLBENZENE
1015	45210	0.01	120.20	CUMENE (ISOPROPYL BENZENE)
1015	45211	0.03	120.19	O-ETHYLTOLUENE
1015	45212	0.09	120.19	M-ETHYLTOLUENE
1015	45215	0.01	134.21	TERT-BUTYLBENZENE
1015	45218	0.00	134.22	M-DIETHYLBENZENE
1015	45225	0.04	120.19	1,2,3-TRIMETHYLBENZENE
1015	45801	0.02	112.56	CHLOROBENZENE

NOTE: 'H' denotes a header record (contains weight percents of NO, NO2, and formaldehyde)

(continued)

TABLE C-1. (Continued)

	Profile Number	SAROAD Code	Weight Percent	Molecular Weight	Species Name
	1015	46701	0.01	123.11	NAPTHALENE
	1015	90013	0.03	112.21	C-2-OCTENE
	1015	98033	0.17	128.26	2,2,5-TRIMETHYLHEXANE
	1015	98034	0.44	84.16	T-2-HEXENE
	1015	98035	0.15	84.16	C-2-HEXENE
	1015	98040	0.05	84.16	2-METHYL-1-PENTENE
	1015	98041	0.03	98.19	3-HEPTENE
	1015	98044	0.01	118.18	INDANE
	1015	98054	0.05	112.22	2,4,4-TRIMETHYL-1-PENTENE
	1015	98056	0.01	86.14	ISOVALERALDEHYDE
H	1016	95.00	5.00	0.00	
	1016	43108	5.24	128.25	ISOMERS OF NONANE
	1016	43109	6.47	142.28	ISOMERS OF DECANE
	1016	43110	1.63	156.30	ISOMERS OF UNDECANE
	1016	43125	7.18	140.27	C10 OLEFINS
	1016	43126	2.89	112.22	C2 CYCLOHEXANE
	1016	43127	1.99	126.24	C3 CYCLOHEXANE
	1016	43128	0.91	154.30	C5 CYCLOHEXANE
	1016	43129	2.89	142.28	C4 SUBSTITUTED CYCLOHEXANE
	1016	43150	4.45	138.25	ISOMERS OF C10H18
	1016	43232	3.07	100.20	HEPTANE
	1016	43241	2.51	156.31	N-UNDECANE
	1016	43261	6.72	98.21	METHYLCYCLOHEXANE
	1016	43304	4.91	60.09	ISO-PROPYL ALCOHOL
	1016	43435	9.27	116.16	N-BUTYL ACETATE
	1016	43552	4.06	72.10	METHYL ETHYL KETONE
	1016	43570	1.99	72.10	ALKENE KETONE
	1016	43802	1.22	84.94	DICHLOROMETHANE
	1016	43837	0.91	187.88	ETHYLENE DIBROMIDE
	1016	45202	15.22	92.13	TOLUENE
	1016	45203	0.93	106.16	ETHYLBENZENE
	1016	45205	1.65	106.16	M-XYLENE
	1016	45206	1.07	106.16	P-XYLENE
	1016	45501	0.76	106.13	BENZALDEHYDE
	1016	45502	1.05	120.16	P-TOLUALDEHYDE
	1016	45601	0.76	148.00	PHTHALIC ANHYDRIDE
	1016	98062	7.96	140.27	DIETHYLCYCLOHEXANE
	1016	98082	2.26	127.05	ETHYLHEPTENE
H	1017	95.00	5.00	0.00	
	1017	43108	4.43	128.25	ISOMERS OF NONANE
	1017	43232	10.17	100.20	HEPTANE
	1017	43261	15.25	98.21	METHYLCYCLOHEXANE
	1017	43277	0.76	114.22	2,4-DIMETHYLHEXANE
	1017	43288	0.79	112.23	ETHYLCYCLOHEXANE
	1017	43435	14.90	116.16	N-BUTYL ACETATE
	1017	45102	1.04	106.16	ISOMERS OF XYLENE
	1017	45202	44.59	92.13	TOLUENE
	1017	45204	3.14	106.16	O-XYLENE
	1017	98057	1.68	98.19	ETHYLCYCLOPENTANE
	1017	98058	1.29	112.16	TRIMETHYLCYCLOPENTANE

NOTE: 'H' denotes a header record (contains weight percents of NO, NO2, and formaldehyde)

(continued)

TABLE C-1. (Continued)

	Profile Number	SAROAD Code	Weight Percent	Molecular Weight	Species Name
	1017	98060	0.81	129.27	TRIMETHYLCYCLOHEXANES
	1017	98090	1.14	112.22	METHYLHEPTENE
H	1018	95.00	5.00	0.00	
	1018	43232	1.56	100.20	HEPTANE
	1018	43248	2.27	84.16	CYCLOHEXANE
	1018	43433	8.96	88.10	ETHYL ACETATE
	1018	43435	9.41	116.16	N-BUTYL ACETATE
	1018	43459	5.51	130.19	C5 ESTER
	1018	43551	5.57	58.08	ACETONE
	1018	43552	2.36	72.10	METHYL ETHYL KETONE
	1018	43560	1.57	100.16	METHYL ISOBUTYL KETONE
	1018	43562	3.62	114.21	METHYL AMYL KETONE
	1018	43563	16.44	114.19	2-METHYL-3-HEXANONE
	1018	45102	11.56	106.16	ISOMERS OF XYLENE
	1018	45104	0.88	120.19	ISOMERS OF ETHYLTOLUENE
	1018	45107	0.50	120.19	TRIMETHYLBENZENE
	1018	45202	15.90	92.13	TOLUENE
	1018	45203	2.36	106.16	ETHYLBENZENE
	1018	45204	11.53	106.16	O-XYLENE
H	1019	95.00	5.00	0.00	
	1019	43108	3.45	128.25	ISOMERS OF NONANE
	1019	43232	1.94	100.20	HEPTANE
	1019	43247	2.66	100.20	2,4-DIMETHYLPENTANE
	1019	43261	2.50	98.21	METHYLCYCLOHEXANE
	1019	43277	11.09	114.22	2,4-DIMETHYLHEXANE
	1019	43288	2.08	112.23	ETHYLCYCLOHEXANE
	1019	43308	10.13	118.17	BUTYL CELLOSOLVE
	1019	43435	8.42	116.16	N-BUTYL ACETATE
	1019	45102	1.45	106.16	ISOMERS OF XYLENE
	1019	45202	44.31	92.13	TOLUENE
	1019	45204	2.23	106.16	O-XYLENE
	1019	98059	6.26	112.12	DIMETHYLCYCLOHEXANE
	1019	98060	2.43	129.27	TRIMETHYLCYCLOHEXANES
	1019	98091	1.04	128.26	DIMETHYLHEPTANES
H	1020	95.00	5.00	0.00	
	1020	43122	56.04	72.15	ISOMERS OF PENTANE
	1020	43231	0.90	86.17	HEXANE
	1020	43262	3.22	84.16	METHYLCYCLOPENTANE
	1020	43322	11.17	90.12	1,4 BUTANEDIOL
	1020	43551	13.28	58.08	ACETONE
	1020	43552	11.17	72.10	METHYL ETHYL KETONE
	1020	43560	0.80	100.16	METHYL ISOBUTYL KETONE
	1020	45202	3.42	92.13	TOLUENE
H	1021	95.00	5.00	0.00	
	1021	43302	30.00	46.07	ETHYL ALCOHOL
	1021	43802	70.00	84.94	DICHLOROMETHANE
H	1022	95.00	5.00	0.00	
	1022	43560	100.00	100.16	METHYL ISOBUTYL KETONE
H	1023	95.00	5.00	0.00	
	1023	43301	99.97	32.04	METHYL ALCOHOL

NOTE: 'H' denotes a header record (contains weight percents of NO, NO2, and formaldehyde)

(continued)

TABLE C-1. (Continued)

	Profile Number	SAROAD Code	Weight Percent	Molecular Weight	Species Name
	1023	45450	0.03	194.19	DIMETHYL TEREPHTHALATE
H	1024	95.00	5.00	0.00	
	1024	43301	7.77	32.04	METHYL ALCOHOL
	1024	43350	66.64	46.07	DIMETHYLETHER
	1024	43432	16.33	74.08	METHYLACETATE
	1024	43503	8.43	44.05	ACETALDEHYDE
	1024	45204	0.83	106.16	O-XYLENE
H	1025	95.00	5.00	0.00	
	1025	43201	17.23	16.04	METHANE
	1025	43404	1.35	60.05	ACETIC ACID
	1025	43432	75.00	74.08	METHYLACETATE
	1025	43503	1.69	44.05	ACETALDEHYDE
	1025	45206	3.38	106.16	P-XYLENE
	1025	45403	1.35	166.14	TEREPHTHALIC ACID
H	1026	95.00	5.00	0.00	
	1026	43371	100.00	118.18	HEXYLENE GLYCOL
H	1027	95.00	5.00	0.00	
	1027	43314	100.00	74.12	S-BUTYL ALCOHOL
H	1028	95.00	5.00	0.00	
	1028	43204	13.00	44.09	PROPANE
	1028	43205	24.00	42.08	PROPENE
	1028	43212	33.00	58.12	N-BUTANE
	1028	43213	20.00	56.10	BUTENE
	1028	43551	10.00	58.08	ACETONE
H	1029	95.00	5.00	0.00	
	1029	43503	38.03	44.05	ACETALDEHYDE
	1029	43551	61.97	58.08	ACETONE
H	1030	95.00	5.00	0.00	
	1030	43201	4.28	16.04	METHANE
	1030	43301	7.43	32.04	METHYL ALCOHOL
	1030	43430	63.43	60.05	METHYL FORMATE
	1030	43457	24.86	76.09	METHYLAL
H	1031	95.00	5.00	0.00	
	1031	43601	100.00	44.05	ETHYLENE OXIDE
H	1032	95.00	5.00	0.00	
	1032	43503	19.58	44.05	ACETALDEHYDE
	1032	43505	80.42	56.07	ACROLEIN
H	1033	95.00	5.00	0.00	
	1033	43204	24.70	44.09	PROPANE
	1033	43205	37.65	42.08	PROPENE
	1033	43505	37.65	56.07	ACROLEIN
H	1034	95.00	5.00	0.00	
	1034	43218	100.00	54.09	1,3-BUTADIENE
H	1035	95.00	5.00	0.00	
	1035	43862	100.00	88.54	CHLOROPRENE
H	1036	95.00	5.00	0.00	
	1036	45701	70.84	93.13	ANILINE
	1036	45730	0.03	250.27	METHYLENE(B)4-PHENYLISOCYAN
	1036	46111	0.01	198.17	4,4-METHYLENE DIANILINE
	1036	46112	23.61	119.13	PHENYL ISOCYANATE

NOTE: 'H' denotes a header record (contains weight percents of NO, NO2, and formaldehyde)

(continued)

TABLE C-1. (Continued)

	Profile Number	SAROAD Code	Weight Percent	Molecular Weight	Species Name
	1036	46114	5.51	107.17	4-METHYLANILINE
H	1037	95.00	5.00	0.00	
	1037	43201	18.35	16.04	METHANE
	1037	43202	3.29	30.07	ETHANE
	1037	43203	60.60	28.05	ETHYLENE
	1037	43812	6.62	64.52	ETHYL CHLORIDE
	1037	43815	11.10	99.00	ETHYLENE DICHLORIDE
	1037	43860	0.04	62.50	VINYL CHLORIDE
H	1038	95.00	5.00	0.00	
	1038	43201	3.73	16.04	METHANE
	1038	43202	0.44	30.07	ETHANE
	1038	43203	10.38	28.05	ETHYLENE
	1038	43812	43.40	64.52	ETHYL CHLORIDE
	1038	43815	36.75	99.00	ETHYLENE DICHLORIDE
	1038	43860	1.21	62.50	VINYL CHLORIDE
	1038	99999	4.09	86.00	UNIDENTIFIED
H	1039	95.00	5.00	0.00	
	1039	43201	12.94	16.04	METHANE
	1039	43202	1.71	30.07	ETHANE
	1039	43203	30.50	28.05	ETHYLENE
	1039	43812	27.30	64.52	ETHYL CHLORIDE
	1039	43815	18.19	99.00	ETHYLENE DICHLORIDE
	1039	43860	4.13	62.50	VINYL CHLORIDE
	1039	99999	5.23	86.00	UNIDENTIFIED
H	1040	95.00	5.00	0.00	
	1040	43811	0.01	137.38	TRICHLOROFLUOROMETHANE
	1040	43821	5.94	187.38	TRICHLOROTRIFLUOROETHANE
	1040	43823	0.06	120.91	DICHLORODIFLUOROMETHANE
	1040	43839	10.02	88.01	TETRAFLUOROMETHANE
	1040	43840	13.91	86.47	CHLORODIFLUOROMETHANE
	1040	43841	4.29	170.92	DICHLOROTETRAFLUORETHANE
	1040	43842	4.76	154.47	CHLOROPENTAFLUOROETHANE
	1040	43843	38.99	138.01	HEXAFLUOROETHANE
	1040	43844	22.01	70.01	TRIFLUOROMETHANE
H	1041	95.00	5.00	0.00	
	1041	43804	0.12	153.84	CARBON TETRACHLORIDE
	1041	43811	0.24	137.38	TRICHLOROFLUOROMETHANE
	1041	43823	0.21	120.91	DICHLORODIFLUOROMETHANE
	1041	43843	79.54	138.01	HEXAFLUOROETHANE
	1041	43844	3.98	70.01	TRIFLUOROMETHANE
	1041	43845	15.91	104.46	CHLOROTRIFLUOROMETHANE
H	1042	95.00	5.00	0.00	
	1042	43811	35.00	137.38	TRICHLOROFLUOROMETHANE
	1042	43823	65.00	120.91	DICHLORODIFLUOROMETHANE
H	1043	95.00	5.00	0.00	
	1043	43204	63.12	44.09	PROPANE
	1043	43205	14.67	42.08	PROPENE
	1043	43404	1.17	60.05	ACETIC ACID
	1043	43407	15.09	72.06	ACRYLIC ACID
	1043	43438	1.01	100.11	ETHYL ACRYLATE

NOTE: 'H' denotes a header record (contains weight percents of NO, NO2, and formaldehyde)

(continued)

TABLE C-1. (Continued)

	Profile Number	SAROAD Code	Weight Percent	Molecular Weight	Species Name
	1043	43503	0.08	44.05	ACETALDEHYDE
	1043	43505	3.77	56.07	ACROLEIN
	1043	43551	1.09	58.08	ACETONE
H	1044	95.00	5.00	0.00	
	1044	43403	6.67	46.03	FORMIC ACID
	1044	43404	33.33	60.05	ACETIC ACID
	1044	43552	60.00	72.10	METHYL ETHYL KETONE
H	1045	95.00	5.00	0.00	
	1045	43404	58.00	60.05	ACETIC ACID
	1045	43551	34.00	58.08	ACETONE
	1045	43604	6.00	102.09	ACETIC ANHYDRIDE
	1045	45201	2.00	78.11	BENZENE
H	1046	95.00	5.00	0.00	
	1046	43201	4.88	16.04	METHANE
	1046	43302	7.88	46.07	ETHYL ALCOHOL
	1046	43351	37.88	74.12	ETHYL ETHER
	1046	43438	20.19	100.11	ETHYL ACRYLATE
	1046	99933	29.16	32.04	DENATURANT
H	1047	95.00	5.00	0.00	
	1047	43305	70.38	74.12	N-BUTYL ALCOHOL
	1047	43438	14.81	100.11	ETHYL ACRYLATE
	1047	43440	14.81	128.17	BUTYL ACRYLATE
H	1048	95.00	5.00	0.00	
	1048	43202	1.19	30.07	ETHANE
	1048	43204	53.34	44.09	PROPANE
	1048	43214	0.89	58.12	ISO-BUTANE
	1048	43245	5.47	84.16	1-HEXENE
	1048	45201	38.47	78.11	BENZENE
	1048	45203	0.61	106.16	ETHYLBENZENE
	1048	45210	0.03	120.20	CUMENE (ISOPROPYL BENZENE)
H	1049	95.00	5.00	0.00	
	1049	43201	16.07	16.04	METHANE
	1049	43202	28.93	30.07	ETHANE
	1049	43204	32.32	44.09	PROPANE
	1049	43212	14.29	58.12	N-BUTANE
	1049	43214	2.32	58.12	ISO-BUTANE
	1049	43220	3.04	72.15	N-PENTANE
	1049	43221	3.04	72.15	ISO PENTANE
H	1050	95.00	5.00	0.00	
	1050	43248	49.86	84.16	CYCLOHEXANE
	1050	43317	10.26	100.16	CYCLOHEXANOL
	1050	43561	10.26	98.15	CYCLOHEXANONE
	1050	45201	25.07	78.11	BENZENE
	1050	45501	4.56	106.13	BENZALDEHYDE
H	1051	95.00	5.00	0.00	
	1051	43203	74.97	28.05	ETHYLENE
	1051	43404	4.18	60.05	ACETIC ACID
	1051	43453	16.68	86.09	VINYL ACETATE
	1051	99999	4.17	86.00	UNIDENTIFIED
H	1052	95.00	5.00	0.00	

NOTE: 'H' denotes a header record (contains weight percents of NO, NO2, and formaldehyde)

(continued)

TABLE C-1. (Continued)

	Profile Number	SAROAD Code	Weight Percent	Molecular Weight	Species Name
	1052	43203	100.00	28.05	ETHYLENE
H	1053	95.00	5.00	0.00	
	1053	43453	100.00	86.09	VINYL ACETATE
H	1054	95.00	5.00	0.00	
	1054	43453	46.00	86.09	VINYL ACETATE
	1054	43503	54.00	44.05	ACETALDEHYDE
H	1055	95.00	5.00	0.00	
	1055	43562	100.00	114.21	METHYL AMYL KETONE
H	1056	95.00	5.00	0.00	
	1056	43203	100.00	28.05	ETHYLENE
H	1057	95.00	5.00	0.00	
	1057	43201	52.30	16.04	METHANE
	1057	43202	0.28	30.07	ETHANE
	1057	43203	47.42	28.05	ETHYLENE
H	1058	95.00	5.00	0.00	
	1058	43201	24.38	16.04	METHANE
	1058	43203	75.62	28.05	ETHYLENE
H	1059	95.00	5.00	0.00	
	1059	43201	1.79	16.04	METHANE
	1059	43301	4.55	32.04	METHYL ALCOHOL
	1059	43350	88.88	46.07	DIMETHYLETHER
	1059	43430	1.67	60.05	METHYL FORMATE
	1059	43441	0.72	100.13	METHYL METHACRYLATE
	1059	43551	2.39	58.08	ACETONE
H	1060	95.00	5.00	0.00	
	1060	43301	59.21	32.04	METHYL ALCOHOL
	1060	43350	13.16	46.07	DIMETHYLETHER
	1060	43441	27.63	100.13	METHYL METHACRYLATE
H	1061	95.00	5.00	0.00	
	1061	45201	99.71	78.11	BENZENE
	1061	45702	0.29	123.11	NITROBENZENE
H	1062	95.00	5.00	0.00	
	1062	45201	100.00	78.11	BENZENE
H	1064	95.00	5.00	0.00	
	1064	43201	12.46	16.04	METHANE
	1064	43202	37.75	30.07	ETHANE
	1064	43204	23.86	44.09	PROPANE
	1064	43212	15.01	58.12	N-BUTANE
	1064	43220	8.07	72.15	N-PENTANE
	1064	43301	0.27	32.04	METHYL ALCOHOL
	1064	45201	2.07	78.11	BENZENE
	1064	45202	0.51	92.13	TOLUENE
H	1065	95.00	5.00	0.00	
	1065	43201	0.51	16.04	METHANE
	1065	43202	5.02	30.07	ETHANE
	1065	43204	77.97	44.09	PROPANE
	1065	43205	5.50	42.08	PROPENE
	1065	43838	5.50	112.99	PROPYLENE DICHLORIDE
	1065	99999	5.50	86.00	UNIDENTIFIED
H	1066	95.00	5.00	0.00	

NOTE: 'H' denotes a header record (contains weight percents of NO, NO2, and formaldehyde)

(continued)

TABLE C-1. (Continued)

	Profile Number	SAROAD Code	Weight Percent	Molecular Weight	Species Name
	1066	43201	21.73	16.04	METHANE
	1066	43202	6.53	30.07	ETHANE
	1066	43203	24.39	28.05	ETHYLENE
	1066	45201	23.28	78.11	BENZENE
	1066	45202	9.21	92.13	TOLUENE
	1066	45203	9.94	106.16	ETHYLBENZENE
	1066	45220	4.91	104.14	STYRENE
H	1067	95.00	5.00	0.00	
	1067	43201	34.72	16.04	METHANE
	1067	43202	6.10	30.07	ETHANE
	1067	43204	0.75	44.09	PROPANE
	1067	43212	21.64	58.12	N-BUTANE
	1067	43220	1.22	72.15	N-PENTANE
	1067	43224	1.19	70.13	1-PENTENE
	1067	45201	34.38	78.11	BENZENE
H	1068	95.00	5.00	0.00	
	1068	45201	41.46	78.11	BENZENE
	1068	45202	19.51	92.13	TOLUENE
	1068	45203	19.51	106.16	ETHYLBENZENE
	1068	45220	19.51	104.14	STYRENE
H	1069	95.00	5.00	0.00	
	1069	43434	100.00	102.15	N-PROPYL ACETATE
H	1070	95.00	5.00	0.00	
	1070	43201	86.71	16.04	METHANE
	1070	43301	1.54	32.04	METHYL ALCOHOL
	1070	43350	11.75	46.07	DIMETHYLETHER
H	1071	95.00	5.00	0.00	
	1071	43301	1.73	32.04	METHYL ALCOHOL
	1071	43350	98.27	46.07	DIMETHYLETHER
H	1072	95.00	5.00	0.00	
	1072	45201	56.95	78.11	BENZENE
	1072	45801	37.19	112.56	CHLOROBENZENE
	1072	45808	5.86	147.01	DICHLOROBENZENES
H	1073	95.00	5.00	0.00	
	1073	45201	95.04	78.11	BENZENE
	1073	45801	4.96	112.56	CHLOROBENZENE
H	1074	95.00	5.00	0.00	
	1074	45801	100.00	112.56	CHLOROBENZENE
H	1075	95.00	5.00	0.00	
	1075	45201	19.62	78.11	BENZENE
	1075	45801	56.83	112.56	CHLOROBENZENE
	1075	45805	4.96	147.01	O-DICHLOROBENZENE
	1075	45806	0.63	147.01	M-DICHLOROBENZENE
	1075	45807	17.96	147.01	P-DICHLOROBENZENE
H	1076	95.00	5.00	0.00	
	1076	45807	100.00	147.01	P-DICHLOROBENZENE
H	1077	95.00	5.00	0.00	
	1077	45201	0.11	78.11	BENZENE
	1077	45801	0.13	112.56	CHLOROBENZENE
	1077	45805	5.31	147.01	O-DICHLOROBENZENE

NOTE: 'H' denotes a header record (contains weight percents of NO, NO2, and formaldehyde)

(continued)

TABLE C-1. (Continued)

	Profile Number	SAROAD Code	Weight Percent	Molecular Weight	Species Name
	1077	45807	94.45	147.01	P-DICHLOROBENZENE
H	1078	95.00	5.00	0.00	
	1078	43370	100.00	62.07	ETHYLENE GLYCOL
H	1079	95.00	5.00	0.00	
	1079	45805	100.00	147.01	O-DICHLOROBENZENE
H	1080	95.00	5.00	0.00	
	1080	46210	100.00	130.19	CREOSOTE
H	1081	95.00	5.00	0.00	
	1081	43441	100.00	100.13	METHYL METHACRYLATE
H	1082	95.00	5.00	0.00	
	1082	45300	100.00	94.11	PHENOL
H	1083	95.00	5.00	0.00	
	1083	43369	100.00	76.00	PROPYLENE GLYCOL
H	1084	95.00	5.00	0.00	
	1084	43201	38.39	16.04	METHANE
	1084	43202	5.21	30.07	ETHANE
	1084	43203	16.38	28.05	ETHYLENE
	1084	43204	1.37	44.09	PROPANE
	1084	43205	2.00	42.08	PROPENE
	1084	43213	0.49	56.10	BUTENE
	1084	43214	0.09	58.12	ISO-BUTANE
	1084	43302	16.47	46.07	ETHYL ALCOHOL
	1084	45201	18.91	78.11	BENZENE
	1084	99999	0.68	86.00	UNIDENTIFIED
H	1085	95.00	5.00	0.00	
	1085	43140	39.33	163.32	C7-C16
	1085	43201	20.00	16.04	METHANE
	1085	43202	38.66	30.07	ETHANE
	1085	43220	2.00	72.15	N-PENTANE
H	1086	95.00	5.00	0.00	
	1086	43551	24.47	58.08	ACETONE
	1086	43552	54.27	72.10	METHYL ETHYL KETONE
	1086	43560	14.78	100.16	METHYL ISOBUTYL KETONE
	1086	45202	6.48	92.13	TOLUENE
H	1087	95.00	5.00	0.00	
	1087	43451	100.00	144.21	ISOBUTYL ISOBUTYRATE
H	1088	95.00	5.00	0.00	
	1088	43232	36.50	100.20	HEPTANE
	1088	43304	6.10	60.09	ISO-PROPYL ALCOHOL
	1088	43433	13.30	88.10	ETHYL ACETATE
	1088	43551	14.20	58.08	ACETONE
	1088	43552	5.30	72.10	METHYL ETHYL KETONE
	1088	43560	4.30	100.16	METHYL ISOBUTYL KETONE
	1088	45202	20.30	92.13	TOLUENE
H	1089	95.00	5.00	0.00	
	1089	43502	0.70	30.03	FORMALDEHYDE
	1089	43505	0.33	56.07	ACROLEIN
	1089	43520	24.20	72.12	TOTAL C2-C5 ALDEHYDES
	1089	45201	34.70	78.11	BENZENE
	1089	45202	14.10	92.13	TOLUENE

NOTE: 'H' denotes a header record (contains weight percents of NO, NO2, and formaldehyde)

(continued)

TABLE C-1. (Continued)

	Profile Number	SAROAD Code	Weight Percent	Molecular Weight	Species Name
	1089	45204	5.50	106.16	O-XYLENE
	1089	45205	6.50	106.16	M-XYLENE
	1089	45300	6.40	94.11	PHENOL
	1089	45604	0.07	98.10	FURFURYL ALCOHOL
	1089	45740	7.42	93.13	TOTAL AROMATIC AMINES
	1089	46701	0.08	123.11	NAPTHALENE
H	1090	95.00	5.00	0.00	
	1090	43804	19.90	153.84	CARBON TETRACHLORIDE
	1090	43811	40.76	137.38	TRICHLOROFLUOROMETHANE
	1090	43823	39.34	120.91	DICHLORODIFLUOROMETHANE
H	1091	95.00	5.00	0.00	
	1091	43860	100.00	62.50	VINYL CHLORIDE
H	1092	95.00	5.00	0.00	
	1092	43776	100.00	116.20	HEXAMETHYLENEDIAMINE
H	1093	95.00	5.00	0.00	
	1093	43803	2.73	119.39	CHLOROFORM
	1093	43840	33.34	86.47	CHLORODIFLUOROMETHANE
	1093	43844	63.93	70.01	TRIFLUOROMETHANE
H	1094	95.00	5.00	0.00	
	1094	43552	19.35	72.10	METHYL ETHYL KETONE
	1094	45202	80.65	92.13	TOLUENE
H	1095	95.00	5.00	0.00	
	1095	43132	5.02	100.00	ALIPHATICS
	1095	43133	0.78	352.43	PARAFFINS (C16-C34)
	1095	43134	0.07	197.38	PARAFFINS/OLEFINS (C12-C16)
	1095	43318	0.41	130.23	2-ETHYL HEXANOL
	1095	43408	39.54	256.43	PALMITIC ACID
	1095	43454	7.53	270.46	METHYL PALMITATE
	1095	43455	0.32	242.41	METHYL MYRISTATE
	1095	43456	9.44	298.52	METHYL STEARATE
	1095	43460	0.01	314.28	METHYL C11 ESTER
	1095	43461	0.02	338.56	METHYL C12 ESTER
	1095	43462	0.01	362.58	METHYL C13 ESTER
	1095	43463	0.08	386.60	METHYL C14 ESTER
	1095	43464	0.04	410.62	METHYL C15 ESTER
	1095	43465	0.02	506.68	METHYL C19 ESTER
	1095	43466	0.01	530.70	METHYL C20 ESTER
	1095	43650	0.19	86.00	OXYGENATES
	1095	43780	0.43	59.11	DIMETHYL ALKYL AMINES
	1095	45109	2.07	134.21	C3/C4/C5 ALKYLBENZENES
	1095	45226	0.48	154.21	BIPHENYL
	1095	45227	0.10	168.24	METHYL BIPHENYL
	1095	45228	0.54	132.21	ETHYL STYRENE
	1095	45229	0.04	130.02	DIVINYL BENZENE
	1095	45232	0.25	182.27	DIPHENYL ETHANE
	1095	45233	0.37	210.32	ETHYL-PHENYL-PHENYL-ETHANE
	1095	45310	0.06	122.16	C8 PHENOLS
	1095	45311	0.26	136.19	C9 PHENOLS
	1095	45402	1.49	122.13	BENZOIC ACID
	1095	45451	4.27	194.19	DIMETHYL PHTHALATE

NOTE: 'H' denotes a header record (contains weight percents of NO, NO2, and formaldehyde)

(continued)

TABLE C-1. (Continued)

	Profile Number	SAROAD Code	Weight Percent	Molecular Weight	Species Name
	1095	45452	0.29	278.35	DIBUTYL PHTHALATE
	1095	45454	0.02	250.30	DIPROPYL PHTHALATE
	1095	45455	22.07	178.23	BUTYL BENZOATE
	1095	45470	0.47	300.53	DI-C8 ALKYL PHTHALATE
	1095	45703	0.12	207.02	2,2 DICHLORONITROANILINE
	1095	45704	0.03	262.03	BROMODINITROANILINE
	1095	45705	0.96	247.02	BROMODINITROBENZENE
	1095	46102	1.25	208.23	ANTHRAQUINONE
	1095	46103	0.04	223.23	AMINOANTHRAQUINONE
	1095	46701	0.37	123.11	NAPTHALENE
	1095	46702	0.17	142.20	METHYL NAPHTHALENES
	1095	46703	0.12	156.23	DIMETHYL NAPTHALENE
	1095	99999	0.25	86.00	UNIDENTIFIED
H	1096	95.00	5.00	0.00	
	1096	43132	14.90	100.00	ALIPHATICS
	1096	43133	2.83	352.43	PARAFFINS (C16-C34)
	1096	43134	0.02	197.38	PARAFFINS/OLEFINS (C12-C16)
	1096	43454	8.99	270.46	METHYL PALMITATE
	1096	43455	5.84	242.41	METHYL MYRISTATE
	1096	43456	11.88	298.52	METHYL STEARATE
	1096	43470	0.03	214.35	METHYL DODECANOATE
	1096	43650	0.35	86.00	OXYGENATES
	1096	43950	2.13	296.62	OCTAMETHYLCYCLOTETRASILOXAN
	1096	43951	1.16	76.08	SILOXANE
	1096	45109	3.49	134.21	C3/C4/C5 ALKYLBENZENES
	1096	45226	2.12	154.21	BIPHENYL
	1096	45227	0.08	168.24	METHYL BIPHENYL
	1096	45228	5.41	132.21	ETHYL STYRENE
	1096	45229	0.61	130.02	DIVINYL BENZENE
	1096	45230	0.01	210.32	DI(ETHYLPHENYL) ETHANE
	1096	45232	1.16	182.27	DIPHENYL ETHANE
	1096	45233	2.07	210.32	ETHYL-PHENYL-PHENYL-ETHANE
	1096	45402	0.24	122.13	BENZOIC ACID
	1096	45451	7.19	194.19	DIMETHYL PHTHALATE
	1096	45452	0.51	278.35	DIBUTYL PHTHALATE
	1096	45455	20.06	178.23	BUTYL BENZOATE
	1096	45470	0.15	300.53	DI-C8 ALKYL PHTHALATE
	1096	45703	0.11	207.02	2,2 DICHLORONITROANILINE
	1096	45705	1.21	247.02	BROMODINITROBENZENE
	1096	45808	0.13	147.01	DICHLOROBENZENES
	1096	45830	2.90	181.45	TRICHLOROBENZENES
	1096	45831	0.14	215.90	TETRACHLOROBENZENES
	1096	46102	1.36	208.23	ANTHRAQUINONE
	1096	46701	1.63	123.11	NAPTHALENE
	1096	46702	0.26	142.20	METHYL NAPHTHALENES
	1096	46703	0.42	156.23	DIMETHYL NAPTHALENE
	1096	99999	0.62	86.00	UNIDENTIFIED
H	1097	95.00	5.00	0.00	
	1097	43111	0.19	170.32	ISOMERS OF DODECANE
	1097	43113	0.20	198.38	ISOMERS OF TETRADECANE

NOTE: 'H' denotes a header record (contains weight percents of NO, NO2, and formaldehyde)

(continued)

TABLE C-1. (Continued)

Profile Number	SAROAD Code	Weight Percent	Molecular Weight	Species Name
1097	43114	0.18	212.41	ISOMERS OF PENTADECANE
1097	43121	0.76	70.13	ISOMERS OF PENTENE
1097	43137	0.16	226.45	C16 BRANCHED ALKANE
1097	43140	0.32	163.32	C7-C16
1097	43201	9.38	16.04	METHANE
1097	43202	0.91	30.07	ETHANE
1097	43203	18.38	28.05	ETHYLENE
1097	43204	0.19	44.09	PROPANE
1097	43205	5.44	42.08	PROPENE
1097	43206	4.41	26.04	ACETYLENE
1097	43213	2.06	56.10	BUTENE
1097	43217	0.50	56.11	CIS-2-BUTENE
1097	43218	1.89	54.09	1,3-BUTADIENE
1097	43220	0.22	72.15	N-PENTANE
1097	43224	0.89	70.13	1-PENTENE
1097	43228	0.21	70.13	2-METHYL-2-BUTENE
1097	43229	0.41	86.17	2-METHYLPENTANE
1097	43232	0.07	100.20	HEPTANE
1097	43233	0.05	114.23	OCTANE
1097	43235	0.13	128.25	NONANE
1097	43238	0.44	142.28	N-DECANE
1097	43241	0.54	156.31	N-UNDECANE
1097	43245	0.86	84.16	1-HEXENE
1097	43255	1.07	170.33	N-DODECANE
1097	43258	0.67	184.36	N-TRIDECANE
1097	43259	0.59	198.38	N-TETRADECANE
1097	43260	0.26	212.41	N-PENTADECANE
1097	43264	0.54	98.18	HEPTENE
1097	43265	0.30	112.21	OCTENE
1097	43269	0.26	127.05	1-NONENE
1097	43502	15.49	30.03	FORMALDEHYDE
1097	43503	4.83	44.05	ACETALDEHYDE
1097	43504	0.98	58.08	PROPIONALDEHYDE
1097	43505	2.38	56.07	ACROLEIN
1097	43510	1.24	72.12	BUTYRALDEHYDE
1097	43512	0.22	100.16	HEXANAL
1097	43513	2.18	58.04	GLYOXAL
1097	43514	2.06	72.07	METHYL GLYOXAL
1097	43515	0.00	70.09	CROTONALDEHYDE
1097	43551	2.41	58.08	ACETONE
1097	45201	2.02	78.11	BENZENE
1097	45202	0.55	92.13	TOLUENE
1097	45203	0.18	106.16	ETHYLBENZENE
1097	45204	0.20	106.16	O-XYLENE
1097	45220	0.41	104.14	STYRENE
1097	45231	0.21	148.25	PENTYL BENZENE
1097	45235	0.26	134.21	BUTYL BENZENE
1097	45300	0.26	94.11	PHENOL
1097	45501	0.57	106.13	BENZALDEHYDE
1097	46701	0.60	123.11	NAPTHALENE

NOTE: 'H' denotes a header record (contains weight percents of NO, NO2, and formaldehyde)

(continued)

TABLE C-1. (Continued)

	Profile Number	SAROAD Code	Weight Percent	Molecular Weight	Species Name
	1097	46702	0.52	142.20	METHYL NAPHTHALENES
	1097	90010	0.30	106.16	M-XYLENE AND P-XYLENE
	1097	90014	0.17	140.22	1-DECENE
	1097	90019	6.96	222.47	C6H18O3SI3
	1097	90020	2.37	296.60	C8H24O4SI4
	1097	90030	0.12	226.45	HEXADECANE
	1097	90031	0.01	240.46	N-HEPTADECANE
H	1098	95.00	5.00	0.00	
	1098	43111	0.18	170.32	ISOMERS OF DODECANE
	1098	43113	0.19	198.38	ISOMERS OF TETRADECANE
	1098	43114	0.17	212.41	ISOMERS OF PENTADECANE
	1098	43121	0.73	70.13	ISOMERS OF PENTENE
	1098	43137	0.14	226.45	C16 BRANCHED ALKANE
	1098	43140	0.30	163.32	C7-C16
	1098	43201	9.57	16.04	METHANE
	1098	43202	0.88	30.07	ETHANE
	1098	43203	17.43	28.05	ETHYLENE
	1098	43204	0.18	44.09	PROPANE
	1098	43205	5.15	42.08	PROPENE
	1098	43206	4.17	26.04	ACETYLENE
	1098	43213	1.97	56.10	BUTENE
	1098	43217	0.48	56.11	CIS-2-BUTENE
	1098	43218	1.80	54.09	1,3-BUTADIENE
	1098	43220	0.21	72.15	N-PENTANE
	1098	43224	0.84	70.13	1-PENTENE
	1098	43228	0.20	70.13	2-METHYL-2-BUTENE
	1098	43229	0.39	86.17	2-METHYLPENTANE
	1098	43232	0.06	100.20	HEPTANE
	1098	43233	0.05	114.23	OCTANE
	1098	43235	0.13	128.25	NONANE
	1098	43238	0.42	142.28	N-DECANE
	1098	43241	0.53	156.31	N-UNDECANE
	1098	43245	0.82	84.16	1-HEXENE
	1098	43255	1.07	170.33	N-DODECANE
	1098	43258	0.66	184.36	N-TRIDECANE
	1098	43259	0.58	198.38	N-TETRADECANE
	1098	43260	0.26	212.41	N-PENTADECANE
	1098	43264	0.54	98.18	HEPTENE
	1098	43265	0.28	112.21	OCTENE
	1098	43269	0.24	127.05	1-NONENE
	1098	43502	15.01	30.03	FORMALDEHYDE
	1098	43503	4.65	44.05	ACETALDEHYDE
	1098	43504	0.95	58.08	PROPIONALDEHYDE
	1098	43505	2.27	56.07	ACROLEIN
	1098	43510	1.20	72.12	BUTYRALDEHYDE
	1098	43512	0.21	100.16	HEXANAL
	1098	43513	2.54	58.04	GLYOXAL
	1098	43514	1.97	72.07	METHYL GLYOXAL
	1098	43515	0.00	70.09	CROTONALDEHYDE
	1098	43551	2.45	58.08	ACETONE

NOTE: 'H' denotes a header record (contains weight percents of NO, NO2, and formaldehyde)

(continued)

TABLE C-1. (Continued)

	Profile Number	SAROAD Code	Weight Percent	Molecular Weight	Species Name
	1098	45201	1.94	78.11	BENZENE
	1098	45202	0.52	92.13	TOLUENE
	1098	45203	0.17	106.16	ETHYLBENZENE
	1098	45204	0.19	106.16	O-XYLENE
	1098	45220	0.39	104.14	STYRENE
	1098	45231	0.19	148.25	PENTYL BENZENE
	1098	45235	0.24	134.21	BUTYL BENZENE
	1098	45300	0.24	94.11	PHENOL
	1098	45501	0.55	106.13	BENZALDEHYDE
	1098	46701	0.57	123.11	NAPTHALENE
	1098	46702	0.49	142.20	METHYL NAPHTHALENES
	1098	90010	0.29	106.16	M-XYLENE AND P-XYLENE
	1098	90014	0.17	140.22	1-DECENE
	1098	90019	9.11	222.47	C6H18O3SI3
	1098	90020	2.92	296.60	C8H24O4SI4
	1098	90030	0.12	226.45	HEXADECANE
	1098	90031	0.01	240.46	N-HEPTADECANE
H	1099	95.00	5.00	0.00	
	1099	43111	0.16	170.32	ISOMERS OF DODECANE
	1099	43113	0.17	198.38	ISOMERS OF TETRADECANE
	1099	43114	0.15	212.41	ISOMERS OF PENTADECANE
	1099	43121	0.64	70.13	ISOMERS OF PENTENE
	1099	43137	0.13	226.45	C16 BRANCHED ALKANE
	1099	43140	0.27	163.32	C7-C16
	1099	43201	10.95	16.04	METHANE
	1099	43202	0.92	30.07	ETHANE
	1099	43203	15.48	28.05	ETHYLENE
	1099	43204	0.20	44.09	PROPANE
	1099	43205	4.59	42.08	PROPENE
	1099	43206	3.69	26.04	ACETYLENE
	1099	43213	1.79	56.10	BUTENE
	1099	43217	0.45	56.11	CIS-2-BUTENE
	1099	43218	1.57	54.09	1,3-BUTADIENE
	1099	43220	0.19	72.15	N-PENTANE
	1099	43224	0.75	70.13	1-PENTENE
	1099	43228	0.18	70.13	2-METHYL-2-BUTENE
	1099	43229	0.35	86.17	2-METHYLPENTANE
	1099	43232	0.06	100.20	HEPTANE
	1099	43233	0.04	114.23	OCTANE
	1099	43235	0.15	128.25	NONANE
	1099	43238	0.42	142.28	N-DECANE
	1099	43241	0.52	156.31	N-UNDECANE
	1099	43245	0.76	84.16	1-HEXENE
	1099	43255	1.21	170.33	N-DODECANE
	1099	43258	0.66	184.36	N-TRIDECANE
	1099	43259	0.59	198.38	N-TETRADECANE
	1099	43260	0.27	212.41	N-PENTADECANE
	1099	43264	0.52	98.18	HEPTENE
	1099	43265	0.25	112.21	OCTENE
	1099	43269	0.22	127.05	1-NONENE

NOTE: 'H' denotes a header record (contains weight percents of NO, NO2, and formaldehyde)

(continued)

TABLE C-1. (Continued)

	Profile Number	SAROAD Code	Weight Percent	Molecular Weight	Species Name
	1099	43502	14.14	30.03	FORMALDEHYDE
	1099	43503	4.32	44.05	ACETALDEHYDE
	1099	43504	0.90	58.08	PROPIONALDEHYDE
	1099	43505	2.06	56.07	ACROLEIN
	1099	43510	1.19	72.12	BUTYRALDEHYDE
	1099	43512	0.20	100.16	HEXANAL
	1099	43513	2.53	58.04	GLYOXAL
	1099	43514	1.81	72.07	METHYL GLYOXAL
	1099	43515	0.00	70.09	CROTONALDEHYDE
	1099	43551	2.93	58.08	ACETONE
	1099	45201	1.79	78.11	BENZENE
	1099	45202	0.49	92.13	TOLUENE
	1099	45203	0.15	106.16	ETHYLBENZENE
	1099	45204	0.18	106.16	O-XYLENE
	1099	45220	0.37	104.14	STYRENE
	1099	45231	0.17	148.25	PENTYL BENZENE
	1099	45235	0.22	134.21	BUTYL BENZENE
	1099	45300	0.22	94.11	PHENOL
	1099	45501	0.53	106.13	BENZALDEHYDE
	1099	46701	0.51	123.11	NAPTHALENE
	1099	46702	0.44	142.20	METHYL NAPHTHALENES
	1099	90010	0.26	106.16	M-XYLENE AND P-XYLENE
	1099	90014	0.15	140.22	1-DECENE
	1099	90019	11.77	222.47	C6H1803SI3
	1099	90020	4.20	296.60	C8H2404SI4
	1099	90030	0.14	226.45	HEXADECANE
	1099	90031	0.01	240.46	N-HEPTADECANE
H	1100	95.00	5.00	0.00	
	1100	43136	0.00	128.25	C9 PARAFFIN
	1100	43211	0.00	84.16	3-METHYL-1-PENTENE
	1100	43212	32.63	58.12	N-BUTANE
	1100	43213	2.69	56.10	BUTENE
	1100	43214	14.45	58.12	ISO-BUTANE
	1100	43215	0.00	56.10	ISOBUTYLENE
	1100	43216	3.19	56.11	T-2-BUTENE
	1100	43217	2.07	56.11	CIS-2-BUTENE
	1100	43220	6.66	72.15	N-PENTANE
	1100	43221	15.83	72.15	ISO PENTANE
	1100	43222	0.00	72.17	2,2 DIMETHYLPROPANE
	1100	43223	0.37	70.13	3-METHYL-1-BUTENE
	1100	43224	0.64	70.13	1-PENTENE
	1100	43226	1.36	70.13	TRANS-2-PENTENE
	1100	43227	0.68	70.13	CIS-2-PENTENE
	1100	43228	1.61	70.13	2-METHYL-2-BUTENE
	1100	43229	2.26	86.17	2-METHYLPENTANE
	1100	43230	1.16	86.17	3-METHYL PENTANE
	1100	43231	0.90	86.17	HEXANE
	1100	43232	0.35	100.20	HEPTANE
	1100	43234	0.00	84.16	2,3 DIMETHYL-1-BUTENE
	1100	43235	0.04	128.25	NONANE

NOTE: 'H' denotes a header record (contains weight percents of NO, NO2, and formaldehyde)

(continued)

TABLE C-1. (Continued)

Profile Number	SAROAD Code	Weight Percent	Molecular Weight	Species Name
1100	43238	0.03	142.28	N-DECANE
1100	43242	0.47	70.14	CYCLOPENTANE
1100	43243	0.02	68.12	ISOPRENE
1100	43245	0.23	84.16	1-HEXENE
1100	43247	0.28	100.20	2,4-DIMETHYLPENTANE
1100	43250	0.37	114.22	2,2,4-TRIMETHYLPENTANE
1100	43252	0.06	114.22	2,3,4-TRIMETHYLPENTANE
1100	43261	0.14	98.21	METHYLCYCLOHEXANE
1100	43262	0.85	84.16	METHYLCYCLOPENTANE
1100	43263	0.00	100.20	2-METHYL HEXANE
1100	43270	0.00	84.16	3-METHYL-T-2-PENTENE
1100	43272	0.17	82.14	METHYLCYCLOPENTENE
1100	43273	0.53	82.14	CYCLOHEXENE
1100	43274	0.00	100.20	2,3 DIMETHYL PENTANE
1100	43276	0.62	86.17	2,3 DIMETHYLBUTANE
1100	43277	0.12	114.22	2,4-DIMETHYLHEXANE
1100	43278	0.00	114.22	2,5-DIMETHYLHEXANE
1100	43279	0.00	84.16	2-ETHYL-1-BUTENE
1100	43280	0.10	114.22	2,3,3 TRIMETHYLPENTANE
1100	43281	0.00	54.09	1-BUTYNE
1100	43282	0.00	54.09	2-BUTYNE
1100	43283	0.00	84.16	C-3-HEXENE
1100	43284	0.36	84.16	2-METHYL-2-PENTENE
1100	43285	0.13	84.16	2-HEXENE
1100	43286	0.02	112.20	DIMETHYLHEXENE
1100	43289	0.18	84.16	C6 OLEFINS
1100	43290	0.00	114.22	2,3 DIMETHYLHEXANE
1100	43291	0.42	86.17	2,2-DIMETHYLBUTANE
1100	43292	0.19	68.11	CYCLOPENTENE
1100	43295	0.38	100.20	3-METHYLHEXANE
1100	43296	0.03	114.23	2-METHYLHEPTANE
1100	43297	0.06	114.23	4-METHYLHEPTANE
1100	43298	0.04	114.23	3-METHYLHEPTANE
1100	43299	0.00	96.17	1-METHYLCYCLOHEXENE
1100	45110	0.11	134.22	C10 AROMATIC
1100	45201	1.00	78.11	BENZENE
1100	45202	1.03	92.13	TOLUENE
1100	45203	0.28	106.16	ETHYLBENZENE
1100	45204	0.15	106.16	O-XYLENE
1100	45205	0.00	106.16	M-XYLENE
1100	45206	0.29	106.16	P-XYLENE
1100	45207	0.21	120.19	1,3,5-TRIMETHYLBENZENE
1100	45208	0.15	120.19	1,2,4-TRIMETHYLBENZENE
1100	45209	0.02	120.19	N-PROPYLBENZENE
1100	45217	0.01	134.22	1,2 DIETHYLBENZENE
1100	45225	0.06	120.19	1,2,3-TRIMETHYLBENZENE
1100	90002	0.01	128.25	2,3,5-TRIMETHYLHEXANE
1100	90004	0.04	128.26	3,5 DIMETHYLHEPTANE
1100	90005	0.00	128.26	2,5 DIMETHYLHEPTANE
1100	90006	0.00	128.26	2,3 DIMETHYLHEPTANE

NOTE: 'H' denotes a header record (contains weight percents of NO, NO2, and formaldehyde)

(continued)

TABLE C-1. (Continued)

	Profile Number	SAROAD Code	Weight Percent	Molecular Weight	Species Name
	1100	98033	0.16	128.26	2,2,5-TRIMETHYLHEXANE
	1100	98044	0.01	118.18	INDANE
	1100	99911	0.08	142.29	3,4 DIMETHYLOCTANE
	1100	99912	0.11	119.19	1-METHYL-3-ETHYLBENZENE
	1100	99916	0.02	134.22	1-METHYL-3N-PROPYLBENZENE
	1100	99917	0.08	134.22	1-METHYL-3-ISOPROPYLBENZENE
	1100	99918	0.05	156.32	2-METHYLDECANE
	1100	99999	3.44	86.00	UNIDENTIFIED
H	1101	95.00	5.00	0.00	
	1101	43135	0.16	142.28	C10 PARAFFINS
	1101	43136	0.00	128.25	C9 PARAFFIN
	1101	43201	10.07	16.04	METHANE
	1101	43202	1.41	30.07	ETHANE
	1101	43203	3.92	28.05	ETHYLENE
	1101	43204	1.62	44.09	PROPANE
	1101	43205	0.00	42.08	PROPENE
	1101	43206	0.75	26.04	ACETYLENE
	1101	43208	0.08	40.06	PROPADIENE
	1101	43209	0.06	40.06	METHYLACETYLENE (PROPYNE)
	1101	43211	0.00	84.16	3-METHYL-1-PENTENE
	1101	43212	9.48	58.12	N-BUTANE
	1101	43213	0.85	56.10	BUTENE
	1101	43214	1.70	58.12	ISO-BUTANE
	1101	43215	0.00	56.10	ISOBUTYLENE
	1101	43216	0.55	56.11	T-2-BUTENE
	1101	43217	0.50	56.11	CIS-2-BUTENE
	1101	43218	1.68	54.09	1,3-BUTADIENE
	1101	43220	2.88	72.15	N-PENTANE
	1101	43221	6.54	72.15	ISO PENTANE
	1101	43223	0.15	70.13	3-METHYL-1-BUTENE
	1101	43224	0.32	70.13	1-PENTENE
	1101	43226	0.68	70.13	TRANS-2-PENTENE
	1101	43227	0.38	70.13	CIS-2-PENTENE
	1101	43228	0.98	70.13	2-METHYL-2-BUTENE
	1101	43229	1.76	86.17	2-METHYLPENTANE
	1101	43230	1.09	86.17	3-METHYL PENTANE
	1101	43231	0.87	86.17	HEXANE
	1101	43232	0.65	100.20	HEPTANE
	1101	43233	0.31	114.23	OCTANE
	1101	43234	0.00	84.16	2,3 DIMETHYL-1-BUTENE
	1101	43235	0.19	128.25	NONANE
	1101	43238	0.16	142.28	N-DECANE
	1101	43241	0.53	156.31	N-UNDECANE
	1101	43242	0.35	70.14	CYCLOPENTANE
	1101	43243	0.07	68.12	ISOPRENE
	1101	43245	0.31	84.16	1-HEXENE
	1101	43247	0.58	100.20	2,4-DIMETHYLPENTANE
	1101	43248	2.79	84.16	CYCLOHEXANE
	1101	43250	1.97	114.22	2,2,4-TRIMETHYLPENTANE
	1101	43252	0.12	114.22	2,3,4-TRIMETHYLPENTANE

NOTE: 'H' denotes a header record (contains weight percents of NO, NO2, and formaldehyde)

(continued)

TABLE C-1. (Continued)

Profile Number	SAROAD Code	Weight Percent	Molecular Weight	Species Name
1101	43261	0.50	98.21	METHYLCYCLOHEXANE
1101	43262	0.78	84.16	METHYLCYCLOPENTANE
1101	43263	0.00	100.20	2-METHYL HEXANE
1101	43270	0.00	84.16	3-METHYL-T-2-PENTENE
1101	43272	0.01	82.14	METHYLCYCLOPENTENE
1101	43273	0.00	82.14	CYCLOHEXENE
1101	43274	1.40	100.20	2,3 DIMETHYL PENTANE
1101	43276	0.69	86.17	2,3 DIMETHYLBUTANE
1101	43277	0.63	114.22	2,4-DIMETHYLHEXANE
1101	43278	0.00	114.22	2,5-DIMETHYLHEXANE
1101	43279	0.00	84.16	2-ETHYL-1-BUTENE
1101	43280	1.09	114.22	2,3,3 TRIMETHYLPENTANE
1101	43281	0.00	54.09	1-BUTYNE
1101	43282	0.00	54.09	2-BUTYNE
1101	43283	0.00	84.16	C-3-HEXENE
1101	43284	0.42	84.16	2-METHYL-2-PENTENE
1101	43285	0.16	84.16	2-HEXENE
1101	43286	0.12	112.20	DIMETHYLHEXENE
1101	43287	0.05	114.22	2,2 DIMETHYLHEXANE
1101	43290	0.00	114.22	2,3 DIMETHYLHEXANE
1101	43291	0.21	86.17	2,2-DIMETHYLBUTANE
1101	43292	0.37	68.11	CYCLOPENTENE
1101	43295	1.06	100.20	3-METHYLHEXANE
1101	43296	0.19	114.23	2-METHYLHEPTANE
1101	43297	0.45	114.23	4-METHYLHEPTANE
1101	43298	0.36	114.23	3-METHYLHEPTANE
1101	43299	0.00	96.17	1-METHYLCYCLOHEXENE
1101	43502	0.74	30.03	FORMALDEHYDE
1101	43503	0.28	44.05	ACETALDEHYDE
1101	43504	0.02	58.08	PROPIONALDEHYDE
1101	43505	0.06	56.07	ACROLEIN
1101	43515	0.02	70.09	CROTONALDEHYDE
1101	45110	2.02	134.22	C10 AROMATIC
1101	45201	0.00	78.11	BENZENE
1101	45202	5.14	92.13	TOLUENE
1101	45203	0.77	106.16	ETHYLBENZENE
1101	45204	1.56	106.16	O-XYLENE
1101	45205	0.00	106.16	M-XYLENE
1101	45206	2.56	106.16	P-XYLENE
1101	45207	1.87	120.19	1,3,5-TRIMETHYLBENZENE
1101	45208	2.30	120.19	1,2,4-TRIMETHYLBENZENE
1101	45209	0.48	120.19	N-PROPYLBENZENE
1101	45216	0.11	134.21	S-BUTYLBENZENE
1101	45217	0.59	134.22	1,2 DIETHYLBENZENE
1101	45218	0.59	134.22	M-DIETHYLBENZENE
1101	45225	0.66	120.19	1,2,3-TRIMETHYLBENZENE
1101	45501	0.08	106.13	BENZALDEHYDE
1101	90002	0.09	128.25	2,3,5-TRIMETHYLHEXANE
1101	90003	0.11	128.26	2,4 DIMETHYLHEPTANE
1101	90004	0.00	128.26	3,5 DIMETHYLHEPTANE

NOTE: 'H' denotes a header record (contains weight percents of NO, NO2, and formaldehyde)

(continued)

TABLE C-1. (Continued)

	Profile Number	SAROAD Code	Weight Percent	Molecular Weight	Species Name
	1101	90005	0.73	128.26	2,5 DIMETHYLHEPTANE
	1101	90006	0.00	128.26	2,3 DIMETHYLHEPTANE
	1101	90007	0.00	84.16	4-METHYL-1-PENTENE
	1101	90008	0.01	128.26	2-METHYLOCTANE
	1101	90009	0.26	142.29	2,4,5-TRIMETHYLHEPTANE
	1101	90042	0.29	84.16	T-3-HEXENE
	1101	98033	0.46	128.26	2,2,5-TRIMETHYLHEXANE
	1101	98044	0.52	118.18	INDANE
	1101	99910	0.07	142.29	2,4 DIMETHYLOCTANE
	1101	99911	0.74	142.29	3,4 DIMETHYLOCTANE
	1101	99912	1.06	119.19	1-METHYL-3-ETHYLBENZENE
	1101	99913	0.21	119.19	1-METHYL-2-ETHYLBENZENE
	1101	99915	0.55	134.22	ISOBUTYLBENZENE
	1101	99916	0.17	134.22	1-METHYL-3N-PROPYLBENZENE
	1101	99917	0.38	134.22	1-METHYL-3-ISOPROPYLBENZENE
	1101	99918	1.08	156.32	2-METHYLDECANE
	1101	99999	8.46	86.00	UNIDENTIFIED
H	1103	95.00	5.00	0.00	
	1103	43224	100.00	70.13	1-PENTENE
H	1104	95.00	5.00	0.00	
	1104	43503	100.00	44.05	ACETALDEHYDE
H	1105	95.00	5.00	0.00	
	1105	43404	100.00	60.05	ACETIC ACID
H	1106	95.00	5.00	0.00	
	1106	43604	100.00	102.09	ACETIC ANHYDRIDE
H	1107	95.00	5.00	0.00	
	1107	43505	100.00	56.07	ACROLEIN
H	1108	95.00	5.00	0.00	
	1108	43407	100.00	72.06	ACRYLIC ACID
H	1109	95.00	5.00	0.00	
	1109	43704	100.00	53.06	ACRYLONITRILE
H	1110	95.00	5.00	0.00	
	1110	43409	100.00	146.14	ADIPIC ACID
H	1111	95.00	5.00	0.00	
	1111	45701	100.00	93.13	ANILINE
H	1112	95.00	5.00	0.00	
	1112	45810	100.00	126.59	BENZYL CHLORIDE
H	1114	95.00	5.00	0.00	
	1114	43440	100.00	128.17	BUTYL ACRYLATE
H	1115	95.00	5.00	0.00	
	1115	43379	100.00	162.23	BUTYL CARBITOL
H	1116	95.00	5.00	0.00	
	1116	43308	100.00	118.17	BUTYL CELLOSOLVE
H	1118	95.00	5.00	0.00	
	1118	43377	100.00	134.18	CARBITOL
H	1119	95.00	5.00	0.00	
	1119	43804	100.00	153.84	CARBON TETRACHLORIDE
H	1120	95.00	5.00	0.00	
	1120	43206	100.00	26.04	ACETYLENE
H	1121	95.00	5.00	0.00	

NOTE: 'H' denotes a header record (contains weight percents of NO, NO2, and formaldehyde)

(continued)

TABLE C-1. (Continued)

	Profile Number	SAROAD Code	Weight Percent	Molecular Weight	Species Name
	1121	43803	100.00	119.39	CHLOROFORM
H	1122	95.00	5.00	0.00	
	1122	45605	100.00	108.14	CRESOL
H	1123	95.00	5.00	0.00	
	1123	45210	100.00	120.20	CUMENE (ISOPROPYL BENZENE)
H	1124	95.00	5.00	0.00	
	1124	43317	100.00	100.16	CYCLOHEXANOL
H	1125	95.00	5.00	0.00	
	1125	43561	100.00	98.15	CYCLOHEXANONE
H	1126	95.00	5.00	0.00	
	1126	43292	100.00	68.11	CYCLOPENTENE
H	1127	95.00	5.00	0.00	
	1127	43373	100.00	106.12	DIETHYLENE GLYCOL
H	1128	95.00	5.00	0.00	
	1128	45236	100.00	162.28	DIISOPROPYL BENZENE
H	1129	95.00	5.00	0.00	
	1129	43374	100.00	134.18	DIPROPYLENE GLYCOL
H	1130	95.00	5.00	0.00	
	1130	90001	100.00	168.32	DODECENE
H	1131	95.00	5.00	0.00	
	1131	43863	100.00	92.53	EPICHLOROHYDRIN
H	1132	95.00	5.00	0.00	
	1132	43777	100.00	61.08	ETHANOLAMINE
H	1134	95.00	5.00	0.00	
	1134	43438	100.00	100.11	ETHYL ACRYLATE
H	1135	95.00	5.00	0.00	
	1135	45203	100.00	106.16	ETHYLBENZENE
H	1136	95.00	5.00	0.00	
	1136	43351	100.00	74.12	ETHYL ETHER
H	1137	95.00	5.00	0.00	
	1137	43902	100.00	62.13	ETHYL MERCAPTAN
H	1138	95.00	5.00	0.00	
	1138	43837	100.00	187.88	ETHYLENE DIBROMIDE
H	1139	95.00	5.00	0.00	
	1139	43778	100.00	43.07	ETHYLENEAMINES
H	1140	95.00	5.00	0.00	
	1140	43502	100.00	30.03	FORMALDEHYDE
H	1141	95.00	5.00	0.00	
	1141	43403	100.00	46.03	FORMIC ACID
H	1142	95.00	5.00	0.00	
	1142	45503	100.00	96.09	2-FURFURAL
H	1144	95.00	5.00	0.00	
	1144	43264	100.00	98.18	HEPTENE
H	1145	95.00	5.00	0.00	
	1145	43511	100.00	72.11	ISOBUTYRALDEHYDE
H	1146	95.00	5.00	0.00	
	1146	43468	100.00	128.19	ISOBUTYL ACRYLATE
H	1147	95.00	5.00	0.00	
	1147	43306	100.00	74.12	ISOBUTYL ALCOHOL
H	1148	95.00	5.00	0.00	

NOTE: 'H' denotes a header record (contains weight percents of NO, NO2, and formaldehyde)

(continued)

TABLE C-1. (Continued)

	Profile Number	SAROAD Code	Weight Percent	Molecular Weight	Species Name
	1148	43243	100.00	68.12	ISOPRENE
H	1149	95.00	5.00	0.00	
	1149	43301	100.00	32.04	METHYL ALCOHOL
H	1150	95.00	5.00	0.00	
	1150	43432	100.00	74.08	METHYLACETATE
H	1151	95.00	5.00	0.00	
	1151	43437	100.00	86.09	METHYL ACRYLATE
H	1152	95.00	5.00	0.00	
	1152	43378	100.00	120.15	METHYL CARBITOL
H	1153	95.00	5.00	0.00	
	1153	43310	100.00	76.11	METHYL CELLOSOLVE
H	1154	95.00	5.00	0.00	
	1154	45221	100.00	118.19	METHYL STYRENE
H	1155	95.00	5.00	0.00	
	1155	90011	100.00	54.09	METHYLALLENE
H	1158	95.00	5.00	0.00	
	1158	43376	100.00	88.15	METHYL T-BUTYL ETHER
H	1159	95.00	5.00	0.00	
	1159	45205	100.00	106.16	M-XYLENE
H	1160	95.00	5.00	0.00	
	1160	45702	100.00	123.11	NITROBENZENE
H	1162	95.00	5.00	0.00	
	1162	43510	100.00	72.12	BUTYRALDEHYDE
H	1163	95.00	5.00	0.00	
	1163	43238	100.00	142.28	N-DECANE
H	1164	95.00	5.00	0.00	
	1164	43111	100.00	170.32	ISOMERS OF DODECANE
H	1165	95.00	5.00	0.00	
	1165	45204	100.00	106.16	O-XYLENE
H	1166	95.00	5.00	0.00	
	1166	43114	100.00	212.41	ISOMERS OF PENTADECANE
H	1168	95.00	5.00	0.00	
	1168	45750	100.00	68.12	PIPERYLENE
H	1171	95.00	5.00	0.00	
	1171	43504	100.00	58.08	PROPIONALDEHYDE
H	1172	95.00	5.00	0.00	
	1172	43405	100.00	74.08	PROPIONIC ACID
H	1173	95.00	5.00	0.00	
	1173	43602	100.00	58.08	PROPYLENE OXIDE
H	1174	95.00	5.00	0.00	
	1174	45206	100.00	106.16	P-XYLENE
H	1175	95.00	5.00	0.00	
	1175	43309	100.00	74.12	TERT-BUTYL ALCOHOL
H	1176	95.00	5.00	0.00	
	1176	45731	100.00	174.17	TOLUENE DIISOCYANATE
H	1178	97.00	3.00	0.00	
	1178	43202	2.09	30.07	ETHANE
	1178	43204	1.78	44.09	PROPANE
	1178	43212	0.98	58.12	N-BUTANE
	1178	43213	0.79	56.10	BUTENE

NOTE: 'H' denotes a header record (contains weight percents of NO, NO2, and formaldehyde)

(continued)

TABLE C-1. (Continued)

	Profile Number	SAROAD Code	Weight Percent	Molecular Weight	Species Name
	1178	43221	1.22	72.15	ISO PENTANE
	1178	43227	1.05	70.13	CIS-2-PENTENE
	1178	43231	9.45	86.17	HEXANE
	1178	43232	1.50	100.20	HEPTANE
	1178	43245	3.63	84.16	1-HEXENE
	1178	43247	6.39	100.20	2,4-DIMETHYLPENTANE
	1178	43264	3.69	98.18	HEPTENE
	1178	45202	5.62	92.13	TOLUENE
	1178	45203	11.25	106.16	ETHYLBENZENE
	1178	45204	8.66	106.16	O-XYLENE
	1178	45205	39.23	106.16	M-XYLENE
	1178	90014	2.67	140.22	1-DECENE
H	1185	95.00	5.00	0.00	
	1185	43202	17.79	30.07	ETHANE
	1185	43203	0.00	28.05	ETHYLENE
	1185	43204	5.20	44.09	PROPANE
	1185	43205	0.77	42.08	PROPENE
	1185	43206	15.43	26.04	ACETYLENE
	1185	43212	6.38	58.12	N-BUTANE
	1185	43213	6.09	56.10	BUTENE
	1185	43214	3.00	58.12	ISO-BUTANE
	1185	43215	0.00	56.10	ISOBUTYLENE
	1185	43220	1.18	72.15	N-PENTANE
	1185	43221	1.24	72.15	ISO PENTANE
	1185	43231	7.80	86.17	HEXANE
	1185	43247	0.00	100.20	2,4-DIMETHYLPENTANE
	1185	43262	2.90	84.16	METHYLCYCLOPENTANE
	1185	43263	0.00	100.20	2-METHYL HEXANE
	1185	45201	3.78	78.11	BENZENE
	1185	45202	8.39	92.13	TOLUENE
	1185	45203	5.67	106.16	ETHYLBENZENE
	1185	45204	2.60	106.16	O-XYLENE
	1185	90010	11.76	106.16	M-XYLENE AND P-XYLENE
H	1186	95.00	5.00	0.00	
	1186	43135	0.00	142.28	C10 PARAFFINS
	1186	43136	0.00	128.25	C9 PARAFFIN
	1186	43201	2.45	16.04	METHANE
	1186	43202	0.69	30.07	ETHANE
	1186	43203	4.35	28.05	ETHYLENE
	1186	43204	0.00	44.09	PROPANE
	1186	43205	1.57	42.08	PROPENE
	1186	43206	2.66	26.04	ACETYLENE
	1186	43208	0.11	40.06	PROPADIENE
	1186	43209	0.24	40.06	METHYLACETYLENE (PROPYNE)
	1186	43211	0.00	84.16	3-METHYL-1-PENTENE
	1186	43212	22.42	58.12	N-BUTANE
	1186	43213	1.11	56.10	BUTENE
	1186	43214	3.43	58.12	ISO-BUTANE
	1186	43215	0.00	56.10	ISOBUTYLENE
	1186	43216	0.89	56.11	T-2-BUTENE

NOTE: 'H' denotes a header record (contains weight percents of NO, NO2, and formaldehyde)

(continued)

TABLE C-1. (Continued)

Profile Number	SAROAD Code	Weight Percent	Molecular Weight	Species Name
1186	43217	0.67	56.11	CIS-2-BUTENE
1186	43218	0.00	54.09	1,3-BUTADIENE
1186	43220	4.86	72.15	N-PENTANE
1186	43221	11.04	72.15	ISO PENTANE
1186	43223	0.14	70.13	3-METHYL-1-BUTENE
1186	43224	0.41	70.13	1-PENTENE
1186	43225	0.00	70.13	2-METHYL-1-BUTENE
1186	43226	0.82	70.13	TRANS-2-PENTENE
1186	43227	0.97	70.13	CIS-2-PENTENE
1186	43228	0.11	70.13	2-METHYL-2-BUTENE
1186	43229	2.81	86.17	2-METHYLPENTANE
1186	43230	1.54	86.17	3-METHYL PENTANE
1186	43231	1.53	86.17	HEXANE
1186	43232	0.73	100.20	HEPTANE
1186	43233	0.24	114.23	OCTANE
1186	43234	0.00	84.16	2,3 DIMETHYL-1-BUTENE
1186	43235	0.11	128.25	NONANE
1186	43238	0.11	142.28	N-DECANE
1186	43241	0.14	156.31	N-UNDECANE
1186	43242	0.48	70.14	CYCLOPENTANE
1186	43243	0.10	68.12	ISOPRENE
1186	43245	0.28	84.16	1-HEXENE
1186	43247	0.64	100.20	2,4-DIMETHYLPENTANE
1186	43248	0.00	84.16	CYCLOHEXANE
1186	43250	1.50	114.22	2,2,4-TRIMETHYLPENTANE
1186	43252	0.26	114.22	2,3,4-TRIMETHYLPENTANE
1186	43261	0.26	98.21	METHYLCYCLOHEXANE
1186	43262	1.11	84.16	METHYLCYCLOPENTANE
1186	43263	0.00	100.20	2-METHYL HEXANE
1186	43270	0.00	84.16	3-METHYL-T-2-PENTENE
1186	43272	0.03	82.14	METHYLCYCLOPENTENE
1186	43273	1.58	82.14	CYCLOHEXENE
1186	43274	0.00	100.20	2,3 DIMETHYL PENTANE
1186	43276	0.98	86.17	2,3 DIMETHYLBUTANE
1186	43277	0.42	114.22	2,4-DIMETHYLHEXANE
1186	43278	0.00	114.22	2,5-DIMETHYLHEXANE
1186	43279	0.00	84.16	2-ETHYL-1-BUTENE
1186	43280	0.42	114.22	2,3,3 TRIMETHYLPENTANE
1186	43283	0.00	84.16	C-3-HEXENE
1186	43284	0.34	84.16	2-METHYL-2-PENTENE
1186	43290	0.00	114.22	2,3 DIMETHYLHEXANE
1186	43291	0.22	86.17	2,2-DIMETHYLBUTANE
1186	43292	0.29	68.11	CYCLOPENTENE
1186	43295	0.00	100.20	3-METHYLHEXANE
1186	43296	0.26	114.23	2-METHYLHEPTANE
1186	43297	0.25	114.23	4-METHYLHEPTANE
1186	43298	0.35	114.23	3-METHYLHEPTANE
1186	45201	1.75	78.11	BENZENE
1186	45202	2.98	92.13	TOLUENE
1186	45203	0.67	106.16	ETHYLBENZENE

NOTE: 'H' denotes a header record (contains weight percents of NO, NO2, and formaldehyde)

(continued)

TABLE C-1. (Continued)

Profile Number	SAROAD Code	Weight Percent	Molecular Weight	Species Name
1186	45204	0.91	106.16	O-XYLENE
1186	45205	1.86	106.16	M-XYLENE
1186	45206	0.00	106.16	P-XYLENE
1186	45207	1.21	120.19	1,3,5-TRIMETHYLBENZENE
1186	45208	1.44	120.19	1,2,4-TRIMETHYLBENZENE
1186	45209	0.31	120.19	N-PROPYLBENZENE
1186	45216	0.05	134.21	S-BUTYLBENZENE
1186	45217	0.30	134.22	1,2 DIETHYLBENZENE
1186	45218	0.23	134.22	M-DIETHYLBENZENE
1186	45225	0.26	120.19	1,2,3-TRIMETHYLBENZENE
1186	45235	0.21	134.21	BUTYL BENZENE
1186	45241	0.26	131.20	4-PHENYL-1-BUTENE
1186	45242	0.23	131.20	T-1-PHENYLBUTENE
1186	90002	0.08	128.25	2,3,5-TRIMETHYLHEXANE
1186	90003	0.08	128.26	2,4 DIMETHYLHEPTANE
1186	90004	0.00	128.26	3,5 DIMETHYLHEPTANE
1186	90005	0.13	128.26	2,5 DIMETHYLHEPTANE
1186	90006	0.00	128.26	2,3 DIMETHYLHEPTANE
1186	90008	0.04	128.26	2-METHYLOCTANE
1186	90015	0.31	128.26	3-METHYLOCTANE
1186	90016	0.39	128.26	4-METHYLOCTANE
1186	90017	0.33	127.25	METHYLCYCLOOCTANE
1186	90032	0.14	154.30	1-UNDECENE
1186	90033	0.46	138.25	CYCLOPENTYLCYCLOPENTANE
1186	90034	0.17	126.24	T-2-NONENE
1186	90036	0.19	68.12	PENTYNE
1186	90037	0.02	82.15	HEXYNE
1186	90038	0.08	112.22	CIS-1,4 DIMETHYLCYCLOHEXANE
1186	98033	0.24	128.26	2,2,5-TRIMETHYLHEXANE
1186	98035	0.11	84.16	C-2-HEXENE
1186	98044	0.32	118.18	INDANE
1186	98054	1.73	112.22	2,4,4-TRIMETHYL-1-PENTENE
1186	99908	0.52	167.31	2,3 DIMETHYLOCTANE
1186	99909	0.07	167.31	2,6 DIMETHYLOCTANE
1186	99912	0.16	119.19	1-METHYL-3-ETHYLBENZENE
1186	99913	0.00	119.19	1-METHYL-2-ETHYLBENZENE
1186	99916	0.16	134.22	1-METHYL-3N-PROPYLBENZENE
1186	99918	0.63	156.32	2-METHYLDECANE
1186	99999	5.07	86.00	UNIDENTIFIED
H 1187	95.00	5.00	0.00	
1187	43231	11.33	86.17	HEXANE
1187	43248	14.37	84.16	CYCLOHEXANE
1187	45102	26.94	106.16	ISOMERS OF XYLENE
1187	45104	6.51	120.19	ISOMERS OF ETHYLTOLUENE
1187	45107	9.67	120.19	TRIMETHYLBENZENE
1187	45108	1.34	120.19	ISOMERS OF PROPYLBENZENE
1187	45201	1.04	78.11	BENZENE
1187	45202	20.12	92.13	TOLUENE
1187	45203	8.68	106.16	ETHYLBENZENE
H 1188	95.00	5.00	0.00	

NOTE: 'H' denotes a header record (contains weight percents of NO, NO2, and formaldehyde)

(continued)

TABLE C-1. (Continued)

	Profile Number	SAROAD Code	Weight Percent	Molecular Weight	Species Name
	1188	43302	99.56	46.07	ETHYL ALCOHOL
	1188	43306	0.03	74.12	ISOBUTYL ALCOHOL
	1188	43330	0.09	88.15	ISOAMYL ALCOHOL
	1188	43433	0.32	88.10	ETHYL ACETATE
H	1189	95.00	5.00	0.00	
	1189	43204	0.03	44.09	PROPANE
	1189	43256	52.71	136.24	A-PINENE
	1189	43257	34.44	136.24	B-PINENE
	1189	90050	1.27	136.24	CAMPHENE
	1189	90051	1.87	136.24	MYRCENE
	1189	90052	1.69	136.24	B-PHELLANDRENE
	1189	90053	7.99	136.24	D-LIMONENE
H	1190	95.00	5.00	0.00	
	1190	43105	0.10	86.17	ISOMERS OF HEXANE
	1190	43109	0.10	142.28	ISOMERS OF DECANE
	1190	43110	0.09	156.30	ISOMERS OF UNDECANE
	1190	43111	0.05	170.32	ISOMERS OF DODECANE
	1190	43113	0.02	198.38	ISOMERS OF TETRADECANE
	1190	43115	0.05	98.19	C-7 CYCLOPARAFFINS
	1190	43124	0.10	127.05	C9 OLEFINS
	1190	43125	0.04	140.27	C10 OLEFINS
	1190	43136	0.48	128.25	C9 PARAFFIN
	1190	43138	0.21	112.23	C-8 OLEFINS
	1190	43141	3.84	114.23	C8 PARAFFIN
	1190	43142	0.04	100.20	C7 PARAFFINS
	1190	43143	1.91	70.13	C5 OLEFIN
	1190	43144	2.09	72.15	C5 PARAFFIN
	1190	43145	1.08	70.13	C5 PARAFFIN/OLEFIN
	1190	43146	0.05	154.29	C11 OLEFINS
	1190	43148	0.02	124.23	ISOMERS OF C9H16
	1190	43213	0.14	56.10	BUTENE
	1190	43214	2.65	58.12	ISO-BUTANE
	1190	43215	0.14	56.10	ISOBUTYLENE
	1190	43231	3.91	86.17	HEXANE
	1190	43232	1.84	100.20	HEPTANE
	1190	43242	0.16	70.14	CYCLOPENTANE
	1190	43261	0.21	98.21	METHYLCYCLOHEXANE
	1190	43262	0.68	84.16	METHYLCYCLOPENTANE
	1190	43264	0.03	98.18	HEPTENE
	1190	43272	0.45	82.14	METHYLCYCLOPENTENE
	1190	43273	0.04	82.14	CYCLOHEXENE
	1190	43288	0.08	112.23	ETHYLCYCLOHEXANE
	1190	43292	0.18	68.11	CYCLOPENTENE
	1190	43395	0.04	112.17	C7H12O
	1190	43565	0.05	98.14	DIMETHYLCYCLOBUTANONE
	1190	45105	3.21	134.22	ISOMERS OF BUTYLBENZENE
	1190	45106	0.02	134.21	ISOMERS OF DIETHYLBENZENE
	1190	45107	4.29	120.19	TRIMETHYLBENZENE
	1190	45108	0.76	120.19	ISOMERS OF PROPYLBENZENE
	1190	45111	0.04	132.22	C10H12

NOTE: 'H' denotes a header record (contains weight percents of NO, NO2, and formaldehyde)

(continued)

TABLE C-1. (Continued)

Profile Number	SAROAD Code	Weight Percent	Molecular Weight	Species Name
1190	45201	3.25	78.11	BENZENE
1190	45202	15.22	92.13	TOLUENE
1190	45203	4.07	106.16	ETHYLBENZENE
1190	45204	6.41	106.16	O-XYLENE
1190	45209	0.92	120.19	N-PROPYLBENZENE
1190	45210	0.33	120.20	CUMENE (ISOPROPYL BENZENE)
1190	45220	0.17	104.14	STYRENE
1190	45221	0.05	118.19	METHYL STYRENE
1190	45238	3.61	120.19	ETHYLTOLUENE
1190	45243	1.24	122.21	ETHYLDIMETHYLBENZENE
1190	45244	1.03	134.22	TETRAMETHYLBENZENE
1190	45245	1.43	148.24	C5-ALKYLBENZENES
1190	45246	0.05	146.25	C5-ALKYLBENZENES (UNSAT.)
1190	45247	0.11	162.27	C6-ALKYLBENZENE
1190	45248	0.07	160.26	C4-ALKYLSTYRENES
1190	45801	0.03	112.56	CHLOROBENZENE
1190	46115	0.01	160.00	DIMETHYLNAPHTHYRIDINE
1190	46701	0.80	123.11	NAPTHALENE
1190	46702	0.64	142.20	METHYL NAPHTHALENES
1190	46746	0.10	158.24	C2-ALKYLNAPTHALENE
1190	46747	0.53	132.21	METHYLINDANS
1190	46749	0.01	176.21	METHYLDIHYDRONAPHTHALENE
1190	46750	0.42	146.00	DIMETHYLINDANS
1190	46751	0.06	162.19	DIHYDRONAPTHALENE
1190	46752	0.01	144.00	DIMETHYLINDENE
1190	46754	0.04	318.89	ETHYLINDAN
1190	46755	0.06	333.92	TRIMETHYLINDAN
1190	90010	15.28	106.16	M-XYLENE AND P-XYLENE
1190	90023	0.06	70.13	METHYLBUTENE
1190	90024	0.01	68.12	METHYLBUTADIENE
1190	90025	0.89	84.16	METHYLPENTENES
1190	90026	1.76	86.17	METHYLPENTANE
1190	90027	0.04	80.14	METHYLCYCLOPENTADIENE
1190	90028	1.68	100.20	METHYLHEXANE
1190	90029	0.03	98.18	METHYLHEXENES
1190	90039	0.25	96.17	METHYLHEXADIENE
1190	90041	0.02	94.15	METHYLCYCLOHEXADIENE
1190	90043	0.92	146.36	METHYLHEXANAL
1190	90044	0.02	110.20	METHYLHEPTYNE
1190	90045	0.35	114.23	METHYLHEPTANE
1190	90046	0.14	96.17	METHYLCYCLOHEXENE
1190	90047	0.21	142.28	METHYLNONANE
1190	90048	0.12	156.32	METHYLDECANES
1190	90054	0.03	68.12	PENTENYNE
1190	90056	0.40	84.16	HEXENE
1190	90058	0.03	111.16	HEXADIENAL
1190	90059	0.02	125.19	HEPTADIENAL
1190	90060	2.29	87.18	DIMETHYLBUTANE
1190	90061	0.30	85.17	DIMETHYLBUTENE
1190	90062	0.36	101.21	DIMETHYLPENTANE

NOTE: 'H' denotes a header record (contains weight percents of NO, NO2, and formaldehyde)

(continued)

TABLE C-1. (Continued)

	Profile Number	SAROAD Code	Weight Percent	Molecular Weight	Species Name
	1190	90063	0.02	99.20	DIMETHYLPENTENE
	1190	90064	0.15	99.19	DIMETHYLCYCLOPENTANE
	1190	90065	0.31	97.18	DIMETHYLCYCLOPENTENES
	1190	90067	0.76	114.23	DIMETHYLHEXANES
	1190	90068	0.10	111.20	DIMETHYLHEXADIENE
	1190	90069	0.09	140.26	DIMETHYLETHYLCYCLOHEXANE
	1190	90070	0.06	140.27	DIMETHYLOCTANES
	1190	90074	0.07	225.43	DIMETHYLDECANE
	1190	90078	0.03	98.19	ETHYLPENTENE
	1190	90079	0.06	96.17	ETHYLCYCLOPENTENE
	1190	90080	0.12	112.21	ETHYLMETHYLCYCLOPENTANE
	1190	90081	0.24	114.23	ETHYLHEXANE
	1190	90082	0.21	128.26	ETHYLMETHYLHEXANE
	1190	90083	0.06	126.24	ETHYLMETHYLCYCLOHEXANES
	1190	90084	0.02	128.26	ETHYLHEPTANE
	1190	90085	0.02	156.31	ETHYLMETHYLOCTANE
	1190	90086	0.01	223.42	ETHYLBICYCLOHEPTANE
	1190	90087	0.13	128.26	ETHYLDIMETHYLPENTANE
	1190	90091	0.04	110.19	TETRAMETHYLCYCLOBUTENE
	1190	90092	0.68	114.22	TRIMETHYLPENTANE
	1190	90093	0.05	107.16	TRIMETHYLPENTADIENE
	1190	90094	0.14	142.29	TRIMETHYLHEPTANES
	1190	90095	0.04	126.24	TRIMETHYLHEXENE
	1190	90096	0.07	156.31	TRIMETHYLOCTANES
	1190	90097	0.03	182.35	TRIMETHYLDECANE
	1190	90099	0.01	108.19	OCTATRIENE
	1190	90100	0.03	127.05	NONENE
	1190	90103	0.04	68.13	PENTADIENE
	1190	90104	0.55	128.26	METHYLOCTANES
	1190	98044	0.44	118.18	INDANE
	1190	98058	0.09	112.16	TRIMETHYLCYCLOPENTANE
	1190	98059	0.10	112.12	DIMETHYLCYCLOHEXANE
	1190	98060	0.02	129.27	TRIMETHYLCYCLOHEXANES
	1190	98091	0.16	128.26	DIMETHYLHEPTANES
H	1191	95.00	5.00	0.00	
	1191	43114	0.15	212.41	ISOMERS OF PENTADECANE
	1191	43125	0.18	140.27	C10 OLEFINS
	1191	43155	3.69	240.47	ISOMERS OF HEPTADECANE
	1191	43156	1.69	254.50	ISOMERS OF OCTADECANE
	1191	43248	4.57	84.16	CYCLOHEXANE
	1191	43273	0.22	82.14	CYCLOHEXENE
	1191	43332	0.06	159.29	DIMETHYLOCTANOL
	1191	43333	0.04	145.26	DIMETHYLHEPTANOL
	1191	43334	0.07	131.24	METHYLHEPTANOL
	1191	43335	0.04	120.00	METHOXYETHOXYETHANOL
	1191	43434	27.44	102.15	N-PROPYL ACETATE
	1191	43444	30.10	102.13	ISOPROPYL ACETATE
	1191	43474	0.03	100.13	METHYLMETHYLPROPENOATE
	1191	43475	0.03	144.22	METHYLETHYLPENTANOATE
	1191	45304	0.18	164.25	C5-ALKYLPHENOLS

NOTE: 'H' denotes a header record (contains weight percents of NO, NO2, and formaldehyde)

(continued)

TABLE C-1. (Continued)

	Profile Number	SAROAD Code	Weight Percent	Molecular Weight	Species Name
	1191	45330	0.07	170.00	BIPHENYLOL
	1191	45402	0.02	122.13	BENZOIC ACID
	1191	45452	9.99	278.35	DIBUTYL PHTHALATE
	1191	45456	12.76	171.22	BUTYLISOPROPYLPHTHALATE
	1191	45706	0.04	169.24	N-PHENYLANILINE
	1191	45731	0.03	174.17	TOLUENE DIISOCYANATE
	1191	90030	3.32	226.45	HEXADECANE
	1191	90049	1.70	170.34	METHYLUNDECANE
	1191	90071	0.25	184.36	DIMETHYLUNDECANE
	1191	90077	0.44	142.29	ETHYLOCTANE
	1191	90096	0.81	156.31	TRIMETHYLOCTANES
	1191	90097	0.30	182.35	TRIMETHYLDECANE
	1191	90125	0.30	296.59	HENEICOSANE
	1191	90126	0.48	282.56	EICOSANE
	1191	90127	0.89	268.53	NONADECANE
	1191	90130	0.11	204.41	CARYOPHYLLENE
H	1192	95.00	5.00	0.00	
	1192	43109	4.36	142.28	ISOMERS OF DECANE
	1192	43110	3.03	156.30	ISOMERS OF UNDECANE
	1192	43111	0.91	170.32	ISOMERS OF DODECANE
	1192	43112	0.03	184.36	ISOMERS OF TRIDECANE
	1192	43113	0.10	198.38	ISOMERS OF TETRADECANE
	1192	43125	1.15	140.27	C10 OLEFINS
	1192	43138	1.00	112.23	C-8 OLEFINS
	1192	43146	0.29	154.29	C11 OLEFINS
	1192	43147	0.07	168.32	C12 OLEFINS
	1192	43148	0.39	124.23	ISOMERS OF C9H16
	1192	43231	0.13	86.17	HEXANE
	1192	43232	27.59	100.20	HEPTANE
	1192	43235	2.84	128.25	NONANE
	1192	43261	5.97	98.21	METHYLCYCLOHEXANE
	1192	43288	0.26	112.23	ETHYLCYCLOHEXANE
	1192	43565	0.19	98.14	DIMETHYLCYCLOBUTANONE
	1192	45105	1.33	134.22	ISOMERS OF BUTYLBENZENE
	1192	45107	1.00	120.19	TRIMETHYLBENZENE
	1192	45108	0.91	120.19	ISOMERS OF PROPYLBENZENE
	1192	45202	20.88	92.13	TOLUENE
	1192	45204	0.57	106.16	O-XYLENE
	1192	45209	0.15	120.19	N-PROPYLBENZENE
	1192	45210	0.11	120.20	CUMENE (ISOPROPYL BENZENE)
	1192	45245	0.10	148.24	C5-ALKYLBENZENES
	1192	45303	0.12	150.22	C4-ALKYLPHENOLS
	1192	45304	0.06	164.25	C5-ALKYLPHENOLS
	1192	45320	0.05	122.16	DIMETHYLBENZYLALCOHOL
	1192	46202	0.12	244.00	OCTAHYDROINDENES
	1192	46601	0.02	132.25	TETRAMETHYLTHIOUREA
	1192	46701	0.10	123.11	NAPTHALENE
	1192	46747	0.01	132.21	METHYLINDANS
	1192	46748	0.08	170.34	METHYLDECALINS
	1192	46753	0.19	138.25	DECALINS

NOTE: 'H' denotes a header record (contains weight percents of NO, NO2, and formaldehyde)

(continued)

TABLE C-1. (Continued)

	Profile Number	SAROAD Code	Weight Percent	Molecular Weight	Species Name
	1192	90010	0.76	106.16	M-XYLENE AND P-XYLENE
	1192	90028	4.16	100.20	METHYLHEXANE
	1192	90029	0.40	98.18	METHYLHEXENES
	1192	90047	2.46	142.28	METHYLNONANE
	1192	90048	1.46	156.32	METHYLDECANES
	1192	90049	0.10	170.34	METHYLUNDECANE
	1192	90064	2.31	99.19	DIMETHYLCYCLOPENTANE
	1192	90066	0.07	124.23	NONADIENE
	1192	90067	1.09	114.23	DIMETHYLHEXANES
	1192	90070	0.98	140.27	DIMETHYLOCTANES
	1192	90072	0.65	168.32	METHYLPROPYLCYCLOHEXANES
	1192	90073	0.18	140.27	METHYLISOPROPYLCYCLOHEXANE
	1192	90075	0.14	100.16	ETHYLOCTENE
	1192	90076	0.70	211.41	DIMETHYLNONANES
	1192	90077	0.08	142.29	ETHYLOCTANE
	1192	90080	0.02	112.21	ETHYLMETHYLCYCLOPENTANE
	1192	90081	0.16	114.23	ETHYLHEXANE
	1192	90083	2.24	126.24	ETHYLMETHYLCYCLOHEXANES
	1192	90085	0.22	156.31	ETHYLMETHYLOCTANE
	1192	90089	0.04	141.27	ETHYLDIMETHYLCYCLOHEXANE
	1192	90090	0.20	154.29	ETHYLPROPYLCYCLOHEXANES
	1192	90091	0.01	110.19	TETRAMETHYLCYCLOBUTENE
	1192	90094	0.71	142.29	TRIMETHYLHEPTANES
	1192	90096	0.15	156.31	TRIMETHYLOCTANES
	1192	90098	0.22	126.24	TETRAMETHYLCYCLOPENTANE
	1192	90101	0.53	140.27	BUTYLCYCLOHEXANE
	1192	90102	0.11	183.35	METHYLPROPYLNONANE
	1192	90104	2.40	128.26	METHYLOCTANES
	1192	90105	0.07	141.23	PROPENYLCYCLOHEXANE
	1192	90106	0.09	140.26	METHYLNONENE
	1192	90107	0.25	154.29	METHYLDECENE
	1192	90108	0.06	184.36	METHYLDODECANE
	1192	98058	1.17	112.16	TRIMETHYLCYCLOPENTANE
	1192	98059	0.35	112.12	DIMETHYLCYCLOHEXANE
	1192	98060	0.80	129.27	TRIMETHYLCYCLOHEXANES
	1192	98062	0.25	140.27	DIETHYLCYCLOHEXANE
	1192	98063	0.16	154.30	N-PENTYLCYCLOHEXANE
	1192	98082	0.10	127.05	ETHYLHEPTENE
	1192	98091	0.05	128.26	DIMETHYLHEPTANES
H	1193	95.00	5.00	0.00	
	1193	43109	11.28	142.28	ISOMERS OF DECANE
	1193	43110	7.92	156.30	ISOMERS OF UNDECANE
	1193	43111	1.12	170.32	ISOMERS OF DODECANE
	1193	43112	0.05	184.36	ISOMERS OF TRIDECANE
	1193	43124	0.02	127.05	C9 OLEFINS
	1193	43125	2.15	140.27	C10 OLEFINS
	1193	43135	0.74	142.28	C10 PARAFFINS
	1193	43146	0.98	154.29	C11 OLEFINS
	1193	43147	0.12	168.32	C12 OLEFINS
	1193	43150	0.07	138.25	ISOMERS OF C10H18

NOTE: 'H' denotes a header record (contains weight percents of NO, NO2, and formaldehyde)

(continued)

TABLE C-1. (Continued)

Profile Number	SAROAD Code	Weight Percent	Molecular Weight	Species Name
1193	43151	0.32	152.28	ISOMERS OF C11H20
1193	43153	0.10	136.24	C10H16
1193	43235	6.96	128.25	NONANE
1193	43261	0.02	98.21	METHYLCYCLOHEXANE
1193	43288	0.59	112.23	ETHYLCYCLOHEXANE
1193	43336	0.10	130.26	OCTANOL
1193	43397	0.17	142.24	TRIMETHYLCYCLOHEXANOL
1193	43566	0.15	125.11	TRIMETHYLCYCLOPENTANONE
1193	43567	0.64	157.25	TETRAMETHYLPENTANONE
1193	45105	3.74	134.22	ISOMERS OF BUTYLBENZENE
1193	45107	2.23	120.19	TRIMETHYLBENZENE
1193	45108	0.98	120.19	ISOMERS OF PROPYLBENZENE
1193	45202	0.50	92.13	TOLUENE
1193	45203	0.35	106.16	ETHYLBENZENE
1193	45204	1.56	106.16	O-XYLENE
1193	45210	0.34	120.20	CUMENE (ISOPROPYL BENZENE)
1193	45215	0.31	134.21	TERT-BUTYLBENZENE
1193	45238	0.38	120.19	ETHYLTOLUENE
1193	45245	0.10	148.24	C5-ALKYLBENZENES
1193	45303	0.38	150.22	C4-ALKYLPHENOLS
1193	45304	0.17	164.25	C5-ALKYLPHENOLS
1193	45320	0.15	122.16	DIMETHYLBENZYLALCOHOL
1193	45801	0.26	112.56	CHLOROBENZENE
1193	46202	0.17	244.00	OCTAHYDROINDENES
1193	46601	0.05	132.25	TETRAMETHYLTHIOUREA
1193	46602	0.05	135.19	BENZOTHIAZOLE
1193	46701	0.35	123.11	NAPTHALENE
1193	46748	0.55	170.34	METHYLDECALINS
1193	46753	0.60	138.25	DECALINS
1193	90010	2.26	106.16	M-XYLENE AND P-XYLENE
1193	90045	0.02	114.23	METHYLHEPTANE
1193	90047	4.17	142.28	METHYLNONANE
1193	90048	4.19	156.32	METHYLDECANES
1193	90049	0.91	170.34	METHYLUNDECANE
1193	90055	0.43	154.29	PENTYLCYCLOHEXANE
1193	90066	0.17	124.23	NONADIENE
1193	90070	6.49	140.27	DIMETHYLOCTANES
1193	90071	0.24	184.36	DIMETHYLUNDECANE
1193	90072	5.99	168.32	METHYLPROPYLCYCLOHEXANES
1193	90074	0.29	225.43	DIMETHYLDECANE
1193	90076	2.48	211.41	DIMETHYLNONANES
1193	90077	0.21	142.29	ETHYLOCTANE
1193	90081	0.34	114.23	ETHYLHEXANE
1193	90082	0.10	128.26	ETHYLMETHYLHEXANE
1193	90083	4.27	126.24	ETHYLMETHYLCYCLOHEXANES
1193	90089	0.95	141.27	ETHYLDIMETHYLCYCLOHEXANE
1193	90090	0.50	154.29	ETHYLPROPYLCYCLOHEXANES
1193	90094	5.89	142.29	TRIMETHYLHEPTANES
1193	90095	0.35	126.24	TRIMETHYLHEXENE
1193	90096	0.35	156.31	TRIMETHYLOCTANES

NOTE: 'H' denotes a header record (contains weight percents of NO, NO2, and formaldehyde)

(continued)

TABLE C-1. (Continued)

	Profile Number	SAROAD Code	Weight Percent	Molecular Weight	Species Name
	1193	90097	0.02	182.35	TRIMETHYLDECANE
	1193	90098	0.55	126.24	TETRAMETHYLCYCLOPENTANE
	1193	90101	1.68	140.27	BUTYLCYCLOHEXANE
	1193	90104	1.49	128.26	METHYLOCTANES
	1193	90105	0.77	141.23	PROPENYLCYCLOHEXANE
	1193	90107	0.67	154.29	METHYLDECENE
	1193	90109	0.55	141.28	PROPYLHEPTENES
	1193	90110	0.55	111.20	DIETHYLMETHYLCYCLOHEXANES
	1193	90111	0.43	140.27	ISOPROPYLMETHYLCYCLOHEXANE
	1193	90112	0.10	138.25	DIMETHYLOCTYNE
	1193	90113	0.17	443.11	PENTYLIDENECYCLOHEXANE
	1193	90114	0.05	168.32	DIMETHYLBUTYLCYCLOHEXANE
	1193	90118	0.10	225.20	OCTAHYDROPENTALENE
	1193	90120	2.11	126.24	PROPYLCYCLOHEXANE
	1193	98059	0.47	112.12	DIMETHYLCYCLOHEXANE
	1193	98060	2.01	129.27	TRIMETHYLCYCLOHEXANES
	1193	98062	0.45	140.27	DIETHYLCYCLOHEXANE
	1193	98091	0.55	128.26	DIMETHYLHEPTANES
H	1194	95.00	5.00	0.00	
	1194	43107	1.27	114.23	ISOMERS OF OCTANE
	1194	43109	0.94	142.28	ISOMERS OF DECANE
	1194	43110	0.57	156.30	ISOMERS OF UNDECANE
	1194	43124	0.94	127.05	C9 OLEFINS
	1194	43125	0.20	140.27	C10 OLEFINS
	1194	43146	0.03	154.29	C11 OLEFINS
	1194	43148	0.02	124.23	ISOMERS OF C9H16
	1194	43232	4.35	100.20	HEPTANE
	1194	43235	2.48	128.25	NONANE
	1194	43261	3.93	98.21	METHYLCYCLOHEXANE
	1194	43273	0.32	82.14	CYCLOHEXENE
	1194	43288	1.57	112.23	ETHYLCYCLOHEXANE
	1194	43294	0.05	98.18	C7 OLEFINS
	1194	43331	0.41	117.21	DIMETHYLPENTANOL
	1194	43337	0.57	148.00	BUTOXYETHOXYETHANOL
	1194	43410	0.01	286.42	HEXADECANOIC ACID
	1194	43469	3.23	162.00	BUTOXYETHOXYETHANOL ACETATE
	1194	43472	1.75	128.21	BUTOXYBUTENE
	1194	43473	0.11	144.24	ETHYLHEXANOATE
	1194	43474	0.32	100.13	METHYLMETHYLPROPENOATE
	1194	43476	0.08	174.20	DIMETHYLHEXANEDIOATE
	1194	43477	0.81	132.00	DIMETHYLPENTANEDIOATE
	1194	43567	1.30	157.25	TETRAMETHYLPENTANONE
	1194	43568	6.77	138.25	NONENONE
	1194	45102	20.66	106.16	ISOMERS OF XYLENE
	1194	45105	9.10	134.22	ISOMERS OF BUTYLBENZENE
	1194	45108	4.36	120.19	ISOMERS OF PROPYLBENZENE
	1194	45201	1.51	78.11	BENZENE
	1194	45202	8.65	92.13	TOLUENE
	1194	45221	0.18	118.19	METHYL STYRENE
	1194	45226	0.02	154.21	BIPHENYL

NOTE: 'H' denotes a header record (contains weight percents of NO, NO2, and formaldehyde)

(continued)

TABLE C-1. (Continued)

	Profile Number	SAROAD Code	Weight Percent	Molecular Weight	Species Name
	1194	45245	1.48	148.24	C5-ALKYLBENZENES
	1194	45247	0.02	162.27	C6-ALKYLBENZENE
	1194	45404	0.01	179.22	DIMETHYLETHYLBENZOICACID
	1194	45452	0.01	278.35	DIBUTYL PHTHALATE
	1194	45470	0.30	300.53	DI-C8 ALKYL PHTHALATE
	1194	45477	1.17	192.00	BUTYLBENZYLPHTHALATE
	1194	45601	0.11	148.00	PHTHALIC ANHYDRIDE
	1194	46204	0.05	160.00	DIHYDROXYNAPTHALENEDIONE
	1194	46701	1.46	123.11	NAPTHALENE
	1194	46702	0.28	142.20	METHYL NAPHTHALENES
	1194	46750	0.05	146.00	DIMETHYLINDANS
	1194	90028	2.16	100.20	METHYLHEXANE
	1194	90047	0.26	142.28	METHYLNONANE
	1194	90048	0.13	156.32	METHYLDECANES
	1194	90064	0.81	99.19	DIMETHYLCYCLOPENTANE
	1194	90070	0.11	140.27	DIMETHYLOCTANES
	1194	90076	0.26	211.41	DIMETHYLNONANES
	1194	90080	0.13	112.21	ETHYLMETHYLCYCLOPENTANE
	1194	90081	5.32	114.23	ETHYLHEXANE
	1194	90083	1.00	126.24	ETHYLMETHYLCYCLOHEXANES
	1194	90104	1.20	128.26	METHYLOCTANES
	1194	90105	0.18	141.23	PROPENYLCYCLOHEXANE
	1194	90115	0.75	128.26	TRIMETHYLHEXANES
	1194	90117	0.11	136.24	LIMONENE
	1194	90122	0.08	145.31	TETRAMETHYLHEXANE
	1194	90128	0.32	126.25	ISOPROPYLCYCLOHEXANE
	1194	98057	0.41	98.19	ETHYLCYCLOPENTANE
	1194	98058	1.17	112.16	TRIMETHYLCYCLOPENTANE
	1194	98059	3.47	112.12	DIMETHYLCYCLOHEXANE
	1194	98060	0.70	129.27	TRIMETHYLCYCLOHEXANES
H	1195	95.00	5.00	0.00	
	1195	43109	1.33	142.28	ISOMERS OF DECANE
	1195	43110	0.93	156.30	ISOMERS OF UNDECANE
	1195	43111	0.28	170.32	ISOMERS OF DODECANE
	1195	43112	0.01	184.36	ISOMERS OF TRIDECANE
	1195	43113	0.03	198.38	ISOMERS OF TETRADECANE
	1195	43125	0.35	140.27	C10 OLEFINS
	1195	43138	0.31	112.23	C-8 OLEFINS
	1195	43146	0.09	154.29	C11 OLEFINS
	1195	43147	0.02	168.32	C12 OLEFINS
	1195	43148	0.12	124.23	ISOMERS OF C9H16
	1195	43231	0.04	86.17	HEXANE
	1195	43232	8.44	100.20	HEPTANE
	1195	43235	0.87	128.25	NONANE
	1195	43248	0.10	84.16	CYCLOHEXANE
	1195	43261	1.83	98.21	METHYLCYCLOHEXANE
	1195	43288	0.08	112.23	ETHYLCYCLOHEXANE
	1195	43314	0.70	74.12	S-BUTYL ALCOHOL
	1195	43351	0.80	74.12	ETHYL ETHER
	1195	43551	1.40	58.08	ACETONE

NOTE: 'H' denotes a header record (contains weight percents of NO, NO2, and formaldehyde)

(continued)

TABLE C-1. (Continued)

Profile Number	SAROAD Code	Weight Percent	Molecular Weight	Species Name
1195	43552	1.10	72.10	METHYL ETHYL KETONE
1195	43565	0.06	98.14	DIMETHYLCYCLOBUTANONE
1195	43802	4.10	84.94	DICHLOROMETHANE
1195	43814	22.29	133.42	1,1,1-TRICHLOROETHANE
1195	43817	7.40	165.83	PERCHLOROETHYLENE
1195	43821	4.10	187.38	TRICHLOROTRIFLUOROETHANE
1195	43824	21.09	131.40	TRICHLOROETHYLENE
1195	45102	3.40	106.16	ISOMERS OF XYLENE
1195	45105	0.41	134.22	ISOMERS OF BUTYLBENZENE
1195	45107	0.31	120.19	TRIMETHYLBENZENE
1195	45108	0.28	120.19	ISOMERS OF PROPYLBENZENE
1195	45201	1.00	78.11	BENZENE
1195	45202	8.29	92.13	TOLUENE
1195	45204	0.17	106.16	O-XYLENE
1195	45209	0.05	120.19	N-PROPYLBENZENE
1195	45210	0.03	120.20	CUMENE (ISOPROPYL BENZENE)
1195	45245	0.03	148.24	C5-ALKYLBENZENES
1195	45303	0.04	150.22	C4-ALKYLPHENOLS
1195	45304	0.02	164.25	C5-ALKYLPHENOLS
1195	45320	0.02	122.16	DIMETHYLBENZYLALCOHOL
1195	46202	0.03	244.00	OCTAHYDROINDENES
1195	46601	0.01	132.25	TETRAMETHYLTHIOUREA
1195	46701	0.03	123.11	NAPTHALENE
1195	46748	0.03	170.34	METHYLDECALINS
1195	46753	0.06	138.25	DECALINS
1195	90010	0.23	106.16	M-XYLENE AND P-XYLENE
1195	90028	1.27	100.20	METHYLHEXANE
1195	90029	0.12	98.18	METHYLHEXENES
1195	90047	0.75	142.28	METHYLNONANE
1195	90048	0.45	156.32	METHYLDECANES
1195	90049	0.03	170.34	METHYLUNDECANE
1195	90064	0.71	99.19	DIMETHYLCYCLOPENTANE
1195	90066	0.02	124.23	NONADIENE
1195	90067	0.33	114.23	DIMETHYLHEXANES
1195	90070	0.30	140.27	DIMETHYLOCTANES
1195	90072	0.20	168.32	METHYLPROPYLCYCLOHEXANES
1195	90073	0.06	140.27	METHYLISOPROPYLCYCLOHEXANE
1195	90075	0.04	100.16	ETHYLOCTENE
1195	90076	0.21	211.41	DIMETHYLNONANES
1195	90077	0.02	142.29	ETHYLOCTANE
1195	90080	0.01	112.21	ETHYLMETHYLCYCLOPENTANE
1195	90081	0.05	114.23	ETHYLHEXANE
1195	90083	0.69	126.24	ETHYLMETHYLCYCLOHEXANES
1195	90085	0.07	156.31	ETHYLMETHYLOCTANE
1195	90089	0.01	141.27	ETHYLDIMETHYLCYCLOHEXANE
1195	90090	0.06	154.29	ETHYLPROPYLCYCLOHEXANES
1195	90094	0.22	142.29	TRIMETHYLHEPTANES
1195	90096	0.05	156.31	TRIMETHYLOCTANES
1195	90098	0.07	126.24	TETRAMETHYLCYCLOPENTANE
1195	90101	0.16	140.27	BUTYLCYCLOHEXANE

NOTE: 'H' denotes a header record (contains weight percents of NO, NO2, and formaldehyde)

(continued)

TABLE C-1. (Continued)

	Profile Number	SAROAD Code	Weight Percent	Molecular Weight	Species Name
	1195	90102	0.03	183.35	METHYLPROPYLNONANE
	1195	90104	0.73	128.26	METHYLOCTANES
	1195	90105	0.02	141.23	PROPENYLCYCLOHEXANE
	1195	90106	0.03	140.26	METHYLNONENE
	1195	90107	0.08	154.29	METHYLDECENE
	1195	90108	0.02	184.36	METHYLDODECANE
	1195	98058	0.36	112.16	TRIMETHYLCYCLOPENTANE
	1195	98059	0.11	112.12	DIMETHYLCYCLOHEXANE
	1195	98060	0.24	129.27	TRIMETHYLCYCLOHEXANES
	1195	98062	0.08	140.27	DIETHYLCYCLOHEXANE
	1195	98063	0.05	154.30	N-PENTYLCYCLOHEXANE
	1195	98082	0.03	127.05	ETHYLHEPTENE
	1195	98091	0.02	128.26	DIMETHYLHEPTANES
H	1196	95.00	5.00	0.00	
	1196	43109	1.74	142.28	ISOMERS OF DECANE
	1196	43110	1.22	156.30	ISOMERS OF UNDECANE
	1196	43111	0.17	170.32	ISOMERS OF DODECANE
	1196	43112	0.01	184.36	ISOMERS OF TRIDECANE
	1196	43125	0.33	140.27	C10 OLEFINS
	1196	43135	0.11	142.28	C10 PARAFFINS
	1196	43146	0.14	154.29	C11 OLEFINS
	1196	43147	0.01	168.32	C12 OLEFINS
	1196	43150	0.01	138.25	ISOMERS OF C10H18
	1196	43151	0.04	152.28	ISOMERS OF C11H20
	1196	43153	0.01	136.24	C10H16
	1196	43235	1.07	128.25	NONANE
	1196	43288	0.09	112.23	ETHYLCYCLOHEXANE
	1196	43336	0.01	130.26	OCTANOL
	1196	43397	0.03	142.24	TRIMETHYLCYCLOHEXANOL
	1196	43566	0.02	125.11	TRIMETHYLCYCLOPENTANONE
	1196	43567	0.10	157.25	TETRAMETHYLPENTANONE
	1196	43817	82.09	165.83	PERCHLOROETHYLENE
	1196	43821	3.00	187.38	TRICHLOROTRIFLUOROETHANE
	1196	45105	0.57	134.22	ISOMERS OF BUTYLBENZENE
	1196	45107	0.34	120.19	TRIMETHYLBENZENE
	1196	45108	0.15	120.19	ISOMERS OF PROPYLBENZENE
	1196	45202	0.08	92.13	TOLUENE
	1196	45203	0.05	106.16	ETHYLBENZENE
	1196	45204	0.24	106.16	O-XYLENE
	1196	45209	0.05	120.19	N-PROPYLBENZENE
	1196	45210	0.05	120.20	CUMENE (ISOPROPYL BENZENE)
	1196	45215	0.05	134.21	TERT-BUTYLBENZENE
	1196	45238	0.06	120.19	ETHYLTOLUENE
	1196	45245	0.01	148.24	C5-ALKYLBENZENES
	1196	45303	0.06	150.22	C4-ALKYLPHENOLS
	1196	45304	0.03	164.25	C5-ALKYLPHENOLS
	1196	45320	0.02	122.16	DIMETHYLBENZYLALCOHOL
	1196	45801	0.04	112.56	CHLOROBENZENE
	1196	46202	0.03	244.00	OCTAHYDROINDENES
	1196	46601	0.01	132.25	TETRAMETHYLTHIOUREA

NOTE: 'H' denotes a header record (contains weight percents of NO, NO2, and formaldehyde)

(continued)

TABLE C-1. (Continued)

	Profile Number	SAROAD Code	Weight Percent	Molecular Weight	Species Name
	1196	46602	0.01	135.19	BENZOTHIAZOLE
	1196	46701	0.05	123.11	NAPTHALENE
	1196	46748	0.08	170.34	METHYLDECALINS
	1196	46753	0.09	138.25	DECALINS
	1196	90010	0.35	106.16	M-XYLENE AND P-XYLENE
	1196	90047	0.64	142.28	METHYLNONANE
	1196	90048	0.64	156.32	METHYLDECANES
	1196	90049	0.14	170.34	METHYLUNDECANE
	1196	90055	0.07	154.29	PENTYLCYCLOHEXANE
	1196	90066	0.03	124.23	NONADIENE
	1196	90070	1.00	140.27	DIMETHYLOCTANES
	1196	90071	0.04	184.36	DIMETHYLUNDECANE
	1196	90072	0.48	168.32	METHYLPROPYLCYCLOHEXANES
	1196	90074	0.04	225.43	DIMETHYLDECANE
	1196	90076	0.39	211.41	DIMETHYLNONANES
	1196	90077	0.03	142.29	ETHYLOCTANE
	1196	90081	0.05	114.23	ETHYLHEXANE
	1196	90082	0.01	128.26	ETHYLMETHYLHEXANE
	1196	90083	0.66	126.24	ETHYLMETHYLCYCLOHEXANES
	1196	90089	0.15	141.27	ETHYLDIMETHYLCYCLOHEXANE
	1196	90090	0.08	154.29	ETHYLPROPYLCYCLOHEXANES
	1196	90094	0.90	142.29	TRIMETHYLHEPTANES
	1196	90095	0.05	126.24	TRIMETHYLHEXENE
	1196	90096	0.05	156.31	TRIMETHYLOCTANES
	1196	90098	0.08	126.24	TETRAMETHYLCYCLOPENTANE
	1196	90101	0.26	140.27	BUTYLCYCLOHEXANE
	1196	90104	0.23	128.26	METHYLOCTANES
	1196	90105	0.12	141.23	PROPENYLCYCLOHEXANE
	1196	90107	0.10	154.29	METHYLDECENE
	1196	90109	0.08	141.28	PROPYLHEPTENES
	1196	90110	0.08	111.20	DIETHYLMETHYLCYCLOHEXANES
	1196	90111	0.07	140.27	ISOPROPYLMETHYLCYCLOHEXANE
	1196	90112	0.01	138.25	DIMETHYLOCTYNE
	1196	90113	0.03	443.11	PENTYLIDENECYCLOHEXANE
	1196	90114	0.01	168.32	DIMETHYLBUTYLCYCLOHEXANE
	1196	90118	0.01	225.20	OCTAHYDROPENTALENE
	1196	90120	0.33	126.24	PROPYLCYCLOHEXANE
	1196	98059	0.07	112.12	DIMETHYLCYCLOHEXANE
	1196	98060	0.30	129.27	TRIMETHYLCYCLOHEXANES
	1196	98062	0.07	140.27	DIETHYLCYCLOHEXANE
	1196	98091	0.08	128.26	DIMETHYLHEPTANES
H	1197	95.00	5.00	0.00	
	1197	43250	100.00	114.22	2,2,4-TRIMETHYLPENTANE
H	1198	95.00	5.00	0.00	
	1198	43220	100.00	72.15	N-PENTANE
H	1199	95.00	5.00	0.00	
	1199	43221	100.00	72.15	ISO PENTANE
H	1200	95.00	5.00	0.00	
	1200	43242	100.00	70.14	CYCLOPENTANE
H	1201	95.00	5.00	0.00	

NOTE: 'H' denotes a header record (contains weight percents of NO, NO2, and formaldehyde)

(continued)

TABLE C-1. (Continued)

	Profile Number	SAROAD Code	Weight Percent	Molecular Weight	Species Name
	1201	43201	4.40	16.04	METHANE
	1201	43202	0.40	30.07	ETHANE
	1201	43203	10.70	28.05	ETHYLENE
	1201	43205	4.00	42.08	PROPENE
	1201	43206	3.80	26.04	ACETYLENE
	1201	43212	3.20	58.12	N-BUTANE
	1201	43220	1.80	72.15	N-PENTANE
	1201	43231	1.40	86.17	HEXANE
	1201	43232	0.40	100.20	HEPTANE
	1201	43233	0.40	114.23	OCTANE
	1201	43235	0.40	128.25	NONANE
	1201	43260	22.82	212.41	N-PENTADECANE
	1201	43502	12.20	30.03	FORMALDEHYDE
	1201	45101	17.60	114.00	NAPHTHA
	1201	45102	0.30	106.16	ISOMERS OF XYLENE
	1201	45107	0.20	120.19	TRIMETHYLBENZENE
	1201	45201	1.90	78.11	BENZENE
	1201	45202	1.80	92.13	TOLUENE
	1201	45204	12.28	106.16	O-XYLENE
H	1202	95.00	5.00	0.00	
	1202	43211	0.00	84.16	3-METHYL-1-PENTENE
	1202	43212	16.31	58.12	N-BUTANE
	1202	43213	1.35	56.10	BUTENE
	1202	43214	7.22	58.12	ISO-BUTANE
	1202	43215	0.00	56.10	ISOBUTYLENE
	1202	43216	1.60	56.11	T-2-BUTENE
	1202	43217	1.04	56.11	CIS-2-BUTENE
	1202	43220	3.33	72.15	N-PENTANE
	1202	43221	7.91	72.15	ISO PENTANE
	1202	43222	0.00	72.17	2,2 DIMETHYLPROPANE
	1202	43223	0.19	70.13	3-METHYL-1-BUTENE
	1202	43224	0.32	70.13	1-PENTENE
	1202	43226	0.68	70.13	TRANS-2-PENTENE
	1202	43227	0.34	70.13	CIS-2-PENTENE
	1202	43228	0.81	70.13	2-METHYL-2-BUTENE
	1202	43229	1.13	86.17	2-METHYLPENTANE
	1202	43230	0.58	86.17	3-METHYL PENTANE
	1202	43231	0.45	86.17	HEXANE
	1202	43232	0.18	100.20	HEPTANE
	1202	43234	0.00	84.16	2,3 DIMETHYL-1-BUTENE
	1202	43235	0.02	128.25	NONANE
	1202	43238	0.02	142.28	N-DECANE
	1202	43242	0.24	70.14	CYCLOPENTANE
	1202	43243	0.01	68.12	ISOPRENE
	1202	43245	0.12	84.16	1-HEXENE
	1202	43247	0.14	100.20	2,4-DIMETHYLPENTANE
	1202	43250	0.19	114.22	2,2,4-TRIMETHYLPENTANE
	1202	43252	0.03	114.22	2,3,4-TRIMETHYLPENTANE
	1202	43261	0.07	98.21	METHYLCYCLOHEXANE
	1202	43262	0.43	84.16	METHYLCYCLOPENTANE

NOTE: 'H' denotes a header record (contains weight percents of NO, NO2, and formaldehyde)

(continued)

TABLE C-1. (Continued)

Profile Number	SAROAD Code	Weight Percent	Molecular Weight	Species Name
1202	43263	0.00	100.20	2-METHYL HEXANE
1202	43270	0.00	84.16	3-METHYL-T-2-PENTENE
1202	43272	0.27	82.14	METHYLCYCLOPENTENE
1202	43274	0.00	100.20	2,3 DIMETHYL PENTANE
1202	43276	0.31	86.17	2,3 DIMETHYLBUTANE
1202	43277	0.06	114.22	2,4-DIMETHYLHEXANE
1202	43278	0.00	114.22	2,5-DIMETHYLHEXANE
1202	43279	0.00	84.16	2-ETHYL-1-BUTENE
1202	43280	0.05	114.22	2,3,3 TRIMETHYLPENTANE
1202	43281	0.00	54.09	1-BUTYNE
1202	43282	0.00	54.09	2-BUTYNE
1202	43283	0.00	84.16	C-3-HEXENE
1202	43284	0.18	84.16	2-METHYL-2-PENTENE
1202	43285	0.07	84.16	2-HEXENE
1202	43286	0.01	112.20	DIMETHYLHEXENE
1202	43289	0.09	84.16	C6 OLEFINS
1202	43290	0.00	114.22	2,3 DIMETHYLHEXANE
1202	43291	0.21	86.17	2,2-DIMETHYLBUTANE
1202	43292	0.10	68.11	CYCLOPENTENE
1202	43295	0.19	100.20	3-METHYLHEXANE
1202	43296	0.02	114.23	2-METHYLHEPTANE
1202	43297	0.03	114.23	4-METHYLHEPTANE
1202	43298	0.02	114.23	3-METHYLHEPTANE
1202	43299	0.00	96.17	1-METHYLCYCLOHEXENE
1202	45110	0.06	134.22	C10 AROMATIC
1202	45201	0.50	78.11	BENZENE
1202	45202	0.52	92.13	TOLUENE
1202	45203	0.14	106.16	ETHYLBENZENE
1202	45204	0.08	106.16	O-XYLENE
1202	45205	0.00	106.16	M-XYLENE
1202	45206	0.15	106.16	P-XYLENE
1202	45207	0.11	120.19	1,3,5-TRIMETHYLBENZENE
1202	45208	0.08	120.19	1,2,4-TRIMETHYLBENZENE
1202	45209	0.01	120.19	N-PROPYLBENZENE
1202	45217	0.01	134.22	1,2 DIETHYLBENZENE
1202	45225	0.03	120.19	1,2,3-TRIMETHYLBENZENE
1202	45300	3.35	94.11	PHENOL
1202	46701	5.74	123.11	NAPTHALENE
1202	46705	10.10	152.20	ACENAPHTHYLENE
1202	46706	0.61	154.21	ACENAPHTHENE
1202	46707	3.50	166.22	FLUORENE
1202	46708	7.30	178.23	PHENANTHRENE
1202	46709	7.50	178.23	ANTHRACENE
1202	46710	3.85	202.26	FLUORANTHENE
1202	46713	2.80	202.26	PYRENE
1202	46715	0.14	228.29	CHRYSENE
1202	46716	0.16	228.30	BENZO (A) ANTHRACENE
1202	46719	0.12	252.32	BENZO (A) PYRENE
1202	90002	0.01	128.25	2,3,5-TRIMETHYLHEXANE
1202	90004	0.02	128.26	3,5 DIMETHYLHEPTANE

NOTE: 'H' denotes a header record (contains weight percents of NO, NO2, and formaldehyde)

(continued)

TABLE C-1. (Continued)

	Profile Number	SAROAD Code	Weight Percent	Molecular Weight	Species Name
	1202	90005	0.00	128.26	2,5 DIMETHYLHEPTANE
	1202	90006	0.00	128.26	2,3 DIMETHYLHEPTANE
	1202	98033	0.08	128.26	2,2,5-TRIMETHYLHEXANE
	1202	98044	0.01	118.18	INDANE
	1202	99911	0.04	142.29	3,4 DIMETHYLOCTANE
	1202	99912	0.06	119.19	1-METHYL-3-ETHYLBENZENE
	1202	99916	0.01	134.22	1-METHYL-3N-PROPYLBENZENE
	1202	99917	0.04	134.22	1-METHYL-3-ISOPROPYLBENZENE
	1202	99918	0.03	156.32	2-METHYLDECANE
	1202	99999	6.56	86.00	UNIDENTIFIED
H	1203	95.00	5.00	0.00	
	1203	43135	0.19	142.28	C10 PARAFFINS
	1203	43136	0.00	128.25	C9 PARAFFIN
	1203	43201	10.97	16.04	METHANE
	1203	43202	1.79	30.07	ETHANE
	1203	43203	8.41	28.05	ETHYLENE
	1203	43204	2.88	44.09	PROPANE
	1203	43205	0.00	42.08	PROPENE
	1203	43206	2.25	26.04	ACETYLENE
	1203	43208	0.13	40.06	PROPADIENE
	1203	43209	0.17	40.06	METHYLACETYLENE (PROPYNE)
	1203	43211	0.00	84.16	3-METHYL-1-PENTENE
	1203	43212	3.81	58.12	N-BUTANE
	1203	43213	0.00	56.10	BUTENE
	1203	43214	0.62	58.12	ISO-BUTANE
	1203	43215	1.41	56.10	ISOBUTYLENE
	1203	43216	0.00	56.11	T-2-BUTENE
	1203	43217	0.46	56.11	CIS-2-BUTENE
	1203	43218	0.67	54.09	1,3-BUTADIENE
	1203	43220	1.60	72.15	N-PENTANE
	1203	43221	3.51	72.15	ISO PENTANE
	1203	43223	0.18	70.13	3-METHYL-1-BUTENE
	1203	43224	0.19	70.13	1-PENTENE
	1203	43226	0.34	70.13	TRANS-2-PENTENE
	1203	43227	0.20	70.13	CIS-2-PENTENE
	1203	43228	0.51	70.13	2-METHYL-2-BUTENE
	1203	43229	1.27	86.17	2-METHYLPENTANE
	1203	43230	0.86	86.17	3-METHYL PENTANE
	1203	43231	0.67	86.17	HEXANE
	1203	43232	0.53	100.20	HEPTANE
	1203	43233	0.30	114.23	OCTANE
	1203	43234	0.00	84.16	2,3 DIMETHYL-1-BUTENE
	1203	43235	0.25	128.25	NONANE
	1203	43238	0.20	142.28	N-DECANE
	1203	43241	0.60	156.31	N-UNDECANE
	1203	43242	0.00	70.14	CYCLOPENTANE
	1203	43243	0.17	68.12	ISOPRENE
	1203	43245	0.22	84.16	1-HEXENE
	1203	43247	0.53	100.20	2,4-DIMETHYLPENTANE
	1203	43248	3.24	84.16	CYCLOHEXANE

NOTE: 'H' denotes a header record (contains weight percents of NO, NO2, and formaldehyde)

(continued)

TABLE C-1. (Continued)

Profile Number	SAROAD Code	Weight Percent	Molecular Weight	Species Name
1203	43250	1.95	114.22	2,2,4-TRIMETHYLPENTANE
1203	43252	0.11	114.22	2,3,4-TRIMETHYLPENTANE
1203	43261	0.47	98.21	METHYLCYCLOHEXANE
1203	43262	0.61	84.16	METHYLCYCLOPENTANE
1203	43263	0.00	100.20	2-METHYL HEXANE
1203	43270	0.00	84.16	3-METHYL-T-2-PENTENE
1203	43272	0.02	82.14	METHYLCYCLOPENTENE
1203	43273	0.00	82.14	CYCLOHEXENE
1203	43274	1.25	100.20	2,3 DIMETHYL PENTANE
1203	43276	0.53	86.17	2,3 DIMETHYLBUTANE
1203	43277	0.00	114.22	2,4-DIMETHYLHEXANE
1203	43278	0.63	114.22	2,5-DIMETHYLHEXANE
1203	43279	0.00	84.16	2-ETHYL-1-BUTENE
1203	43280	1.10	114.22	2,3,3 TRIMETHYLPENTANE
1203	43281	0.00	54.09	1-BUTYNE
1203	43282	0.00	54.09	2-BUTYNE
1203	43283	0.00	84.16	C-3-HEXENE
1203	43284	0.23	84.16	2-METHYL-2-PENTENE
1203	43285	0.08	84.16	2-HEXENE
1203	43286	0.13	112.20	DIMETHYLHEXENE
1203	43287	0.07	114.22	2,2 DIMETHYLHEXANE
1203	43290	0.00	114.22	2,3 DIMETHYLHEXANE
1203	43291	0.71	86.17	2,2-DIMETHYLBUTANE
1203	43292	0.27	68.11	CYCLOPENTENE
1203	43295	0.92	100.20	3-METHYLHEXANE
1203	43296	0.22	114.23	2-METHYLHEPTANE
1203	43297	0.52	114.23	4-METHYLHEPTANE
1203	43298	0.36	114.23	3-METHYLHEPTANE
1203	43299	0.00	96.17	1-METHYLCYCLOHEXENE
1203	43502	1.42	30.03	FORMALDEHYDE
1203	43503	0.49	44.05	ACETALDEHYDE
1203	43504	0.05	58.08	PROPIONALDEHYDE
1203	43505	0.15	56.07	ACROLEIN
1203	43515	0.07	70.09	CROTONALDEHYDE
1203	45110	2.65	134.22	C10 AROMATIC
1203	45201	0.00	78.11	BENZENE
1203	45202	5.72	92.13	TOLUENE
1203	45203	0.88	106.16	ETHYLBENZENE
1203	45204	1.76	106.16	O-XYLENE
1203	45205	0.00	106.16	M-XYLENE
1203	45206	2.87	106.16	P-XYLENE
1203	45207	2.21	120.19	1,3,5-TRIMETHYLBENZENE
1203	45208	2.90	120.19	1,2,4-TRIMETHYLBENZENE
1203	45209	0.56	120.19	N-PROPYLBENZENE
1203	45216	0.17	134.21	S-BUTYLBENZENE
1203	45217	0.67	134.22	1,2 DIETHYLBENZENE
1203	45218	0.57	134.22	M-DIETHYLBENZENE
1203	45225	0.81	120.19	1,2,3-TRIMETHYLBENZENE
1203	45501	0.24	106.13	BENZALDEHYDE
1203	90002	0.11	128.25	2,3,5-TRIMETHYLHEXANE

NOTE: 'H' denotes a header record (contains weight percents of NO, NO2, and formaldehyde)

(continued)

TABLE C-1. (Continued)

	Profile Number	SAROAD Code	Weight Percent	Molecular Weight	Species Name
	1203	90003	0.13	128.26	2,4 DIMETHYLHEPTANE
	1203	90004	0.00	128.26	3,5 DIMETHYLHEPTANE
	1203	90005	0.00	128.26	2,5 DIMETHYLHEPTANE
	1203	90006	0.00	128.26	2,3 DIMETHYLHEPTANE
	1203	90007	0.25	84.16	4-METHYL-1-PENTENE
	1203	90008	0.02	128.26	2-METHYLOCTANE
	1203	90009	0.45	142.29	2,4,5-TRIMETHYLHEPTANE
	1203	90042	0.20	84.16	T-3-HEXENE
	1203	98033	0.48	128.26	2,2,5-TRIMETHYLHEXANE
	1203	98044	0.54	118.18	INDANE
	1203	99910	0.10	142.29	2,4 DIMETHYLOCTANE
	1203	99911	0.96	142.29	3,4 DIMETHYLOCTANE
	1203	99912	1.25	119.19	1-METHYL-3-ETHYLBENZENE
	1203	99913	0.26	119.19	1-METHYL-2-ETHYLBENZENE
	1203	99915	0.49	134.22	ISOBUTYLBENZENE
	1203	99916	0.39	134.22	1-METHYL-3N-PROPYLBENZENE
	1203	99917	0.51	134.22	1-METHYL-3-ISOPROPYLBENZENE
	1203	99918	1.32	156.32	2-METHYLDECANE
	1203	99999	9.08	86.00	UNIDENTIFIED
H	1204	95.00	5.00	0.00	
	1204	43135	0.09	142.28	C10 PARAFFINS
	1204	43136	0.00	128.25	C9 PARAFFIN
	1204	43201	0.04	16.04	METHANE
	1204	43202	0.03	30.07	ETHANE
	1204	43203	0.03	28.05	ETHYLENE
	1204	43204	1.54	44.09	PROPANE
	1204	43205	0.00	42.08	PROPENE
	1204	43206	0.01	26.04	ACETYLENE
	1204	43208	0.02	40.06	PROPADIENE
	1204	43209	0.00	40.06	METHYLACETYLENE (PROPYNE)
	1204	43211	0.00	84.16	3-METHYL-1-PENTENE
	1204	43212	28.32	58.12	N-BUTANE
	1204	43213	0.00	56.10	BUTENE
	1204	43214	6.56	58.12	ISO-BUTANE
	1204	43215	0.86	56.10	ISOBUTYLENE
	1204	43216	0.00	56.11	T-2-BUTENE
	1204	43217	0.81	56.11	CIS-2-BUTENE
	1204	43218	0.00	54.09	1,3-BUTADIENE
	1204	43220	4.67	72.15	N-PENTANE
	1204	43221	13.59	72.15	ISO PENTANE
	1204	43223	0.18	70.13	3-METHYL-1-BUTENE
	1204	43224	0.62	70.13	1-PENTENE
	1204	43226	1.11	70.13	TRANS-2-PENTENE
	1204	43227	1.13	70.13	CIS-2-PENTENE
	1204	43228	0.74	70.13	2-METHYL-2-BUTENE
	1204	43229	2.28	86.17	2-METHYLPENTANE
	1204	43230	1.17	86.17	3-METHYL PENTANE
	1204	43231	0.72	86.17	HEXANE
	1204	43232	0.52	100.20	HEPTANE
	1204	43233	0.24	114.23	OCTANE

NOTE: 'H' denotes a header record (contains weight percents of NO, NO2, and formaldehyde)

(continued)

TABLE C-1. (Continued)

Profile Number	SAROAD Code	Weight Percent	Molecular Weight	Species Name
1204	43234	0.00	84.16	2,3 DIMETHYL-1-BUTENE
1204	43235	0.12	128.25	NONANE
1204	43238	0.20	142.28	N-DECANE
1204	43241	0.09	156.31	N-UNDECANE
1204	43242	0.00	70.14	CYCLOPENTANE
1204	43243	0.00	68.12	ISOPRENE
1204	43245	0.39	84.16	1-HEXENE
1204	43247	0.59	100.20	2,4-DIMETHYLPENTANE
1204	43248	1.33	84.16	CYCLOHEXANE
1204	43250	0.59	114.22	2,2,4-TRIMETHYLPENTANE
1204	43252	0.59	114.22	2,3,4-TRIMETHYLPENTANE
1204	43261	0.33	98.21	METHYLCYCLOHEXANE
1204	43262	0.84	84.16	METHYLCYCLOPENTANE
1204	43263	0.00	100.20	2-METHYL HEXANE
1204	43270	0.00	84.16	3-METHYL-T-2-PENTENE
1204	43272	0.07	82.14	METHYLCYCLOPENTENE
1204	43273	0.00	82.14	CYCLOHEXENE
1204	43274	1.03	100.20	2,3 DIMETHYL PENTANE
1204	43276	1.04	86.17	2,3 DIMETHYLBUTANE
1204	43277	0.00	114.22	2,4-DIMETHYLHEXANE
1204	43278	0.48	114.22	2,5-DIMETHYLHEXANE
1204	43279	0.00	84.16	2-ETHYL-1-BUTENE
1204	43280	0.41	114.22	2,3,3 TRIMETHYLPENTANE
1204	43281	0.00	54.09	1-BUTYNE
1204	43282	0.00	54.09	2-BUTYNE
1204	43283	0.00	84.16	C-3-HEXENE
1204	43284	0.64	84.16	2-METHYL-2-PENTENE
1204	43285	0.08	84.16	2-HEXENE
1204	43286	0.05	112.20	DIMETHYLHEXENE
1204	43287	0.05	114.22	2,2 DIMETHYLHEXANE
1204	43290	0.00	114.22	2,3 DIMETHYLHEXANE
1204	43291	1.68	86.17	2,2-DIMETHYLBUTANE
1204	43292	0.20	68.11	CYCLOPENTENE
1204	43295	0.77	100.20	3-METHYLHEXANE
1204	43296	0.22	114.23	2-METHYLHEPTANE
1204	43297	0.10	114.23	4-METHYLHEPTANE
1204	43298	0.35	114.23	3-METHYLHEPTANE
1204	43299	0.00	96.17	1-METHYLCYCLOHEXENE
1204	43502	0.00	30.03	FORMALDEHYDE
1204	43503	0.00	44.05	ACETALDEHYDE
1204	43504	0.00	58.08	PROPIONALDEHYDE
1204	43505	0.00	56.07	ACROLEIN
1204	43515	0.00	70.09	CROTONALDEHYDE
1204	45110	0.63	134.22	C10 AROMATIC
1204	45201	0.00	78.11	BENZENE
1204	45202	8.50	92.13	TOLUENE
1204	45203	0.53	106.16	ETHYLBENZENE
1204	45204	0.87	106.16	O-XYLENE
1204	45205	0.00	106.16	M-XYLENE
1204	45206	2.11	106.16	P-XYLENE

NOTE: 'H' denotes a header record (contains weight percents of NO, NO2, and formaldehyde)

(continued)

TABLE C-1. (Continued)

	Profile Number	SAROAD Code	Weight Percent	Molecular Weight	Species Name
	1204	45207	0.71	120.19	1,3,5-TRIMETHYLBENZENE
	1204	45208	1.21	120.19	1,2,4-TRIMETHYLBENZENE
	1204	45209	0.36	120.19	N-PROPYLBENZENE
	1204	45216	0.16	134.21	S-BUTYLBENZENE
	1204	45217	0.13	134.22	1,2 DIETHYLBENZENE
	1204	45218	0.13	134.22	M-DIETHYLBENZENE
	1204	45225	0.17	120.19	1,2,3-TRIMETHYLBENZENE
	1204	45501	0.00	106.13	BENZALDEHYDE
	1204	90002	0.07	128.25	2,3,5-TRIMETHYLHEXANE
	1204	90003	0.05	128.26	2,4 DIMETHYLHEPTANE
	1204	90004	0.00	128.26	3,5 DIMETHYLHEPTANE
	1204	90005	0.00	128.26	2,5 DIMETHYLHEPTANE
	1204	90006	0.00	128.26	2,3 DIMETHYLHEPTANE
	1204	90007	1.49	84.16	4-METHYL-1-PENTENE
	1204	90008	0.00	128.26	2-METHYLOCTANE
	1204	90009	0.15	142.29	2,4,5-TRIMETHYLHEPTANE
	1204	90042	0.13	84.16	T-3-HEXENE
	1204	98033	0.38	128.26	2,2,5-TRIMETHYLHEXANE
	1204	98044	0.13	118.18	INDANE
	1204	99910	0.20	142.29	2,4 DIMETHYLOCTANE
	1204	99911	0.40	142.29	3,4 DIMETHYLOCTANE
	1204	99912	0.95	119.19	1-METHYL-3-ETHYLBENZENE
	1204	99913	0.04	119.19	1-METHYL-2-ETHYLBENZENE
	1204	99915	0.03	134.22	ISOBUTYLBENZENE
	1204	99916	0.02	134.22	1-METHYL-3N-PROPYLBENZENE
	1204	99917	0.13	134.22	1-METHYL-3-ISOPROPYLBENZENE
	1204	99918	0.21	156.32	2-METHYLDECANE
	1204	99999	2.61	86.00	UNIDENTIFIED
H	9001	95.00	5.00	0.00	
	9001	43105	0.89	86.17	ISOMERS OF HEXANE
	9001	43106	0.37	100.20	ISOMERS OF HEPTANE
	9001	43107	0.67	114.23	ISOMERS OF OCTANE
	9001	43122	2.07	72.15	ISOMERS OF PENTANE
	9001	43140	5.62	163.32	C7-C16
	9001	43201	25.35	16.04	METHANE
	9001	43202	11.41	30.07	ETHANE
	9001	43203	1.67	28.05	ETHYLENE
	9001	43204	4.19	44.09	PROPANE
	9001	43205	2.65	42.08	PROPENE
	9001	43206	2.32	26.04	ACETYLENE
	9001	43212	9.24	58.12	N-BUTANE
	9001	43213	0.87	56.10	BUTENE
	9001	43214	1.64	58.12	ISO-BUTANE
	9001	43215	0.00	56.10	ISOBUTYLENE
	9001	43220	1.98	72.15	N-PENTANE
	9001	43221	0.18	72.15	ISO PENTANE
	9001	43231	3.37	86.17	HEXANE
	9001	43232	0.04	100.20	HEPTANE
	9001	43247	0.00	100.20	2,4-DIMETHYLPENTANE
	9001	43248	0.14	84.16	CYCLOHEXANE

NOTE: 'H' denotes a header record (contains weight percents of NO, NO2, and formaldehyde)

(continued)

TABLE C-1. (Continued)

	Profile Number	SAROAD Code	Weight Percent	Molecular Weight	Species Name
	9001	43262	0.41	84.16	METHYLCYCLOPENTANE
	9001	43263	0.00	100.20	2-METHYL HEXANE
	9001	43502	15.19	30.03	FORMALDEHYDE
	9001	43551	4.00	58.08	ACETONE
	9001	45201	1.38	78.11	BENZENE
	9001	45202	1.48	92.13	TOLUENE
	9001	45203	0.81	106.16	ETHYLBENZENE
	9001	45204	0.37	106.16	O-XYLENE
	9001	90010	1.68	106.16	M-XYLENE AND P-XYLENE
H	9002	95.00	5.00	0.00	
	9002	43105	0.01	86.17	ISOMERS OF HEXANE
	9002	43106	0.01	100.20	ISOMERS OF HEPTANE
	9002	43107	0.01	114.23	ISOMERS OF OCTANE
	9002	43108	0.00	128.25	ISOMERS OF NONANE
	9002	43109	0.01	142.28	ISOMERS OF DECANE
	9002	43120	0.07	56.10	ISOMERS OF BUTENE
	9002	43122	0.03	72.15	ISOMERS OF PENTANE
	9002	43124	0.01	127.05	C9 OLEFINS
	9002	43125	0.01	140.27	C10 OLEFINS
	9002	43201	42.45	16.04	METHANE
	9002	43202	4.90	30.07	ETHANE
	9002	43203	14.51	28.05	ETHYLENE
	9002	43204	0.73	44.09	PROPANE
	9002	43205	9.07	42.08	PROPENE
	9002	43206	5.73	26.04	ACETYLENE
	9002	43212	0.25	58.12	N-BUTANE
	9002	43213	6.70	56.10	BUTENE
	9002	43214	0.11	58.12	ISO-BUTANE
	9002	43215	0.01	56.10	ISOBUTYLENE
	9002	43216	0.03	56.11	T-2-BUTENE
	9002	43217	0.01	56.11	CIS-2-BUTENE
	9002	43218	3.50	54.09	1,3-BUTADIENE
	9002	43220	0.03	72.15	N-PENTANE
	9002	43224	0.00	70.13	1-PENTENE
	9002	43226	0.00	70.13	TRANS-2-PENTENE
	9002	43228	0.00	70.13	2-METHYL-2-BUTENE
	9002	43230	0.01	86.17	3-METHYL PENTANE
	9002	43231	0.01	86.17	HEXANE
	9002	43232	0.01	100.20	HEPTANE
	9002	43233	0.01	114.23	OCTANE
	9002	43235	0.00	128.25	NONANE
	9002	43238	0.00	142.28	N-DECANE
	9002	43241	0.00	156.31	N-UNDECANE
	9002	43242	0.01	70.14	CYCLOPENTANE
	9002	43247	0.00	100.20	2,4-DIMETHYLPENTANE
	9002	43248	0.00	84.16	CYCLOHEXANE
	9002	43261	0.01	98.21	METHYLCYCLOHEXANE
	9002	43262	0.01	84.16	METHYLCYCLOPENTANE
	9002	43264	0.00	98.18	HEPTENE
	9002	43265	0.00	112.21	OCTENE

NOTE: 'H' denotes a header record (contains weight percents of NO, NO2, and formaldehyde)

(continued)

TABLE C-1. (Continued)

	Profile Number	SAROAD Code	Weight Percent	Molecular Weight	Species Name
	9002	43269	0.00	127.05	1-NONENE
	9002	43291	0.00	86.17	2,2-DIMETHYLBUTANE
	9002	43295	0.00	100.20	3-METHYLHEXANE
	9002	43298	0.01	114.23	3-METHYLHEPTANE
	9002	43502	7.70	30.03	FORMALDEHYDE
	9002	43503	0.01	44.05	ACETALDEHYDE
	9002	43511	0.01	72.11	ISOBUTYRALDEHYDE
	9002	45102	0.01	106.16	ISOMERS OF XYLENE
	9002	45109	0.00	134.21	C3/C4/C5 ALKYLBENZENES
	9002	45110	0.00	134.22	C10 AROMATIC
	9002	45201	3.98	78.11	BENZENE
	9002	45202	0.01	92.13	TOLUENE
	9002	45203	0.00	106.16	ETHYLBENZENE
	9002	45204	0.00	106.16	O-XYLENE
	9002	45205	0.00	106.16	M-XYLENE
	9002	45207	0.01	120.19	1,3,5-TRIMETHYLBENZENE
	9002	45208	0.00	120.19	1,2,4-TRIMETHYLBENZENE
	9002	45211	0.00	120.19	O-ETHYLTOLUENE
	9002	45212	0.00	120.19	M-ETHYLTOLUENE
	9002	45225	0.00	120.19	1,2,3-TRIMETHYLBENZENE
	9002	98040	0.01	84.16	2-METHYL-1-PENTENE
H	9003	95.00	5.00	0.00	
	9003	43105	1.11	86.17	ISOMERS OF HEXANE
	9003	43106	0.39	100.20	ISOMERS OF HEPTANE
	9003	43107	0.29	114.23	ISOMERS OF OCTANE
	9003	43108	0.04	128.25	ISOMERS OF NONANE
	9003	43109	0.02	142.28	ISOMERS OF DECANE
	9003	43111	0.10	170.32	ISOMERS OF DODECANE
	9003	43113	0.03	198.38	ISOMERS OF TETRADECANE
	9003	43115	1.87	98.19	C-7 CYCLOPARAFFINS
	9003	43116	0.14	112.23	C-8 CYCLOPARAFFINS
	9003	43117	0.02	126.26	C-9 CYCLOPARAFFINS
	9003	43118	0.41	114.00	MINERAL SPIRITS
	9003	43120	0.09	56.10	ISOMERS OF BUTENE
	9003	43121	0.01	70.13	ISOMERS OF PENTENE
	9003	43122	1.75	72.15	ISOMERS OF PENTANE
	9003	43130	0.04	154.30	C5 SUBSTITUTED CYCLOHEXANE
	9003	43131	0.03	170.32	C6 SUBSTITUTED CYCLOHEXANE
	9003	43132	0.20	100.00	ALIPHATICS
	9003	43133	0.04	352.43	PARAFFINS (C16-C34)
	9003	43134	0.00	197.38	PARAFFINS/OLEFINS (C12-C16)
	9003	43201	9.02	16.04	METHANE
	9003	43202	1.80	30.07	ETHANE
	9003	43203	5.94	28.05	ETHYLENE
	9003	43204	4.85	44.09	PROPANE
	9003	43205	2.09	42.08	PROPENE
	9003	43206	1.59	26.04	ACETYLENE
	9003	43212	2.49	58.12	N-BUTANE
	9003	43213	0.45	56.10	BUTENE
	9003	43214	0.53	58.12	ISO-BUTANE

NOTE: 'H' denotes a header record (contains weight percents of NO, NO2, and formaldehyde)

(continued)

TABLE C-1. (Continued)

Profile Number	SAROAD Code	Weight Percent	Molecular Weight	Species Name
9003	43218	0.61	54.09	1,3-BUTADIENE
9003	43220	1.01	72.15	N-PENTANE
9003	43221	0.03	72.15	ISO PENTANE
9003	43224	0.04	70.13	1-PENTENE
9003	43231	1.14	86.17	HEXANE
9003	43232	0.65	100.20	HEPTANE
9003	43233	0.17	114.23	OCTANE
9003	43235	0.05	128.25	NONANE
9003	43238	0.09	142.28	N-DECANE
9003	43241	0.08	156.31	N-UNDECANE
9003	43242	0.03	70.14	CYCLOPENTANE
9003	43245	0.06	84.16	1-HEXENE
9003	43248	0.77	84.16	CYCLOHEXANE
9003	43255	0.19	170.33	N-DODECANE
9003	43256	0.53	136.24	A-PINENE
9003	43257	0.35	136.24	B-PINENE
9003	43262	0.52	84.16	METHYLCYCLOPENTANE
9003	43301	1.95	32.04	METHYL ALCOHOL
9003	43302	1.12	46.07	ETHYL ALCOHOL
9003	43304	0.41	60.09	ISO-PROPYL ALCOHOL
9003	43305	0.75	74.12	N-BUTYL ALCOHOL
9003	43306	0.00	74.12	ISOBUTYL ALCOHOL
9003	43314	1.01	74.12	S-BUTYL ALCOHOL
9003	43317	0.10	100.16	CYCLOHEXANOL
9003	43318	0.00	130.23	2-ETHYL HEXANOL
9003	43330	0.00	88.15	ISOAMYL ALCOHOL
9003	43350	2.82	46.07	DIMETHYLETHER
9003	43351	0.38	74.12	ETHYL ETHER
9003	43367	0.03	106.12	GLYCOL ETHER
9003	43403	0.07	46.03	FORMIC ACID
9003	43404	0.98	60.05	ACETIC ACID
9003	43408	0.40	256.43	PALMITIC ACID
9003	43430	0.66	60.05	METHYL FORMATE
9003	43432	0.92	74.08	METHYLACETATE
9003	43433	0.00	88.10	ETHYL ACETATE
9003	43435	0.04	116.16	N-BUTYL ACETATE
9003	43438	0.36	100.11	ETHYL ACRYLATE
9003	43440	0.15	128.17	BUTYL ACRYLATE
9003	43441	0.29	100.13	METHYL METHACRYLATE
9003	43453	1.64	86.09	VINYL ACETATE
9003	43454	0.17	270.46	METHYL PALMITATE
9003	43455	0.06	242.41	METHYL MYRISTATE
9003	43456	0.22	298.52	METHYL STEARATE
9003	43457	0.25	76.09	METHYLAL
9003	43460	0.00	314.28	METHYL C11 ESTER
9003	43461	0.00	338.56	METHYL C12 ESTER
9003	43462	0.00	362.58	METHYL C13 ESTER
9003	43463	0.00	386.60	METHYL C14 ESTER
9003	43464	0.00	410.62	METHYL C15 ESTER
9003	43465	0.00	506.68	METHYL C19 ESTER

NOTE: 'H' denotes a header record (contains weight percents of NO, NO2, and formaldehyde)

(continued)

TABLE C-1. (Continued)

Profile Number	SAROAD Code	Weight Percent	Molecular Weight	Species Name
9003	43466	0.00	530.70	METHYL C20 ESTER
9003	43467	0.02	154.26	C4 SUBSTITUTED CYCLOHEXANON
9003	43470	0.00	214.35	METHYL DODECANOATE
9003	43502	1.82	30.03	FORMALDEHYDE
9003	43503	1.24	44.05	ACETALDEHYDE
9003	43505	1.20	56.07	ACROLEIN
9003	43510	0.01	72.12	BUTYRALDEHYDE
9003	43520	0.24	72.12	TOTAL C2-C5 ALDEHYDES
9003	43551	1.82	58.08	ACETONE
9003	43552	1.27	72.10	METHYL ETHYL KETONE
9003	43560	0.17	100.16	METHYL ISOBUTYL KETONE
9003	43561	0.10	98.15	CYCLOHEXANONE
9003	43601	0.05	44.05	ETHYLENE OXIDE
9003	43602	0.01	58.08	PROPYLENE OXIDE
9003	43603	0.20	98.06	MALEIC ANHYDRIDE
9003	43604	0.06	102.09	ACETIC ANHYDRIDE
9003	43650	0.01	86.00	OXYGENATES
9003	43704	0.64	53.06	ACRYLONITRILE
9003	43776	1.01	116.20	HEXAMETHYLENEDIAMINE
9003	43780	0.00	59.11	DIMETHYL ALKYL AMINES
9003	43801	0.01	50.49	METHYL CHLORIDE
9003	43803	0.03	119.39	CHLOROFORM
9003	43804	0.20	153.84	CARBON TETRACHLORIDE
9003	43805	0.10	173.85	METHYLENE BROMIDE
9003	43811	0.77	137.38	TRICHLOROFLUOROMETHANE
9003	43812	0.85	64.52	ETHYL CHLORIDE
9003	43815	1.68	99.00	ETHYLENE DICHLORIDE
9003	43821	0.06	187.38	TRICHLOROTRIFLUOROETHANE
9003	43822	1.75	92.00	TRIMETHYLFLUOROSILANE
9003	43823	1.06	120.91	DICHLORODIFLUOROMETHANE
9003	43838	0.06	112.99	PROPYLENE DICHLORIDE
9003	43839	0.10	88.01	TETRAFLUOROMETHANE
9003	43840	0.48	86.47	CHLORODIFLUOROMETHANE
9003	43841	0.04	170.92	DICHLOROTETRAFLUORETHANE
9003	43842	0.05	154.47	CHLOROPENTAFLUOROETHANE
9003	43843	1.20	138.01	HEXAFLUOROETHANE
9003	43844	0.91	70.01	TRIFLUOROMETHANE
9003	43845	0.16	104.46	CHLOROTRIFLUOROMETHANE
9003	43860	1.07	62.50	VINYL CHLORIDE
9003	43862	1.01	88.54	CHLOROPRENE
9003	43933	0.09	60.08	CARBONYL SULFIDE
9003	43934	0.27	76.14	CARBON SULFIDE
9003	43950	0.02	296.62	OCTAMETHYLCYCLOTETRASILOXAN
9003	43951	0.01	76.08	SILOXANE
9003	45102	0.18	106.16	ISOMERS OF XYLENE
9003	45106	0.04	134.21	ISOMERS OF DIETHYLBENZENE
9003	45107	0.09	120.19	TRIMETHYLBENZENE
9003	45109	0.06	134.21	C3/C4/C5 ALKYLBENZENES
9003	45201	7.05	78.11	BENZENE
9003	45202	1.49	92.13	TOLUENE

NOTE: 'H' denotes a header record (contains weight percents of NO, NO2, and formaldehyde)

(continued)

TABLE C-1. (Continued)

Profile Number	SAROAD Code	Weight Percent	Molecular Weight	Species Name
9003	45203	0.43	106.16	ETHYLBENZENE
9003	45204	0.16	106.16	O-XYLENE
9003	45205	0.07	106.16	M-XYLENE
9003	45206	0.03	106.16	P-XYLENE
9003	45210	0.00	120.20	CUMENE (ISOPROPYL BENZENE)
9003	45220	3.01	104.14	STYRENE
9003	45226	0.03	154.21	BIPHENYL
9003	45227	0.00	168.24	METHYL BIPHENYL
9003	45228	0.06	132.21	ETHYL STYRENE
9003	45229	0.01	130.02	DIVINYL BENZENE
9003	45230	0.00	210.32	DI(ETHYLPHENYL) ETHANE
9003	45232	0.01	182.27	DIPHENYL ETHANE
9003	45233	0.02	210.32	ETHYL-PHENYL-PHENYL-ETHANE
9003	45300	1.09	94.11	PHENOL
9003	45310	0.00	122.16	C8 PHENOLS
9003	45311	0.00	136.19	C9 PHENOLS
9003	45401	0.01	230.00	XYLENE BASE ACIDS
9003	45402	0.12	122.13	BENZOIC ACID
9003	45403	0.01	166.14	TEREPHTHALIC ACID
9003	45450	0.00	194.19	DIMETHYL TEREPHTHALATE
9003	45451	0.12	194.19	DIMETHYL PHTHALATE
9003	45452	0.01	278.35	DIBUTYL PHTHALATE
9003	45454	0.00	250.30	DIPROPYL PHTHALATE
9003	45455	0.43	178.23	BUTYL BENZOATE
9003	45470	0.01	300.53	DI-C8 ALKYL PHTHALATE
9003	45501	0.05	106.13	BENZALDEHYDE
9003	45601	0.61	148.00	PHTHALIC ANHYDRIDE
9003	45604	0.00	98.10	FURFURYL ALCOHOL
9003	45701	0.72	93.13	ANILINE
9003	45702	0.00	123.11	NITROBENZENE
9003	45703	0.04	207.02	2,2 DICHLORONITROANILINE
9003	45704	0.00	262.03	BROMODINITROANILINE
9003	45705	0.02	247.02	BROMODINITROBENZENE
9003	45730	0.00	250.27	METHYLENE(B)4-PHENYLISOCYAN
9003	45740	0.07	93.13	TOTAL AROMATIC AMINES
9003	45801	2.01	112.56	CHLOROBENZENE
9003	45805	0.10	147.01	O-DICHLOROBENZENE
9003	45806	0.01	147.01	M-DICHLOROBENZENE
9003	45807	2.15	147.01	P-DICHLOROBENZENE
9003	45808	0.06	147.01	DICHLOROBENZENES
9003	45830	0.03	181.45	TRICHLOROBENZENES
9003	45831	0.00	215.90	TETRACHLOROBENZENES
9003	46102	0.03	208.23	ANTHRAQUINONE
9003	46103	0.00	223.23	AMINOANTHRAQUINONE
9003	46111	0.00	198.17	4,4-METHYLENE DIANILINE
9003	46112	0.24	119.13	PHENYL ISOCYANATE
9003	46114	0.06	107.17	4-METHYLANILINE
9003	46701	0.09	123.11	NAPTHALENE
9003	46702	0.11	142.20	METHYL NAPHTHALENES
9003	46703	0.01	156.23	DIMETHYL NAPTHALENE

NOTE: 'H' denotes a header record (contains weight percents of NO, NO2, and formaldehyde)

(continued)

TABLE C-1. (Continued)

	Profile Number	SAROAD Code	Weight Percent	Molecular Weight	Species Name
	9003	46711	0.11	146.23	C2 ALKYL INDAN
	9003	90050	0.01	136.24	CAMPHENE
	9003	90051	0.02	136.24	MYRCENE
	9003	90052	0.02	136.24	B-PHELLANDRENE
	9003	90053	0.08	136.24	D-LIMONENE
	9003	98063	0.02	154.30	N-PENTYLCYCLOHEXANE
	9003	98083	0.06	182.35	TRIMETHYLDECENE
	9003	99933	0.29	32.04	DENATURANT
	9003	99999	0.20	86.00	UNIDENTIFIED
H	9004	95.00	5.00	0.00	
	9004	43105	0.12	86.17	ISOMERS OF HEXANE
	9004	43115	1.75	98.19	C-7 CYCLOPARAFFINS
	9004	43116	0.03	112.23	C-8 CYCLOPARAFFINS
	9004	43118	0.61	114.00	MINERAL SPIRITS
	9004	43120	0.13	56.10	ISOMERS OF BUTENE
	9004	43122	0.05	72.15	ISOMERS OF PENTANE
	9004	43201	5.07	16.04	METHANE
	9004	43202	1.38	30.07	ETHANE
	9004	43203	8.29	28.05	ETHYLENE
	9004	43204	3.45	44.09	PROPANE
	9004	43205	2.67	42.08	PROPENE
	9004	43206	2.14	26.04	ACETYLENE
	9004	43212	1.34	58.12	N-BUTANE
	9004	43213	0.37	56.10	BUTENE
	9004	43214	0.07	58.12	ISO-BUTANE
	9004	43220	0.24	72.15	N-PENTANE
	9004	43221	0.05	72.15	ISO PENTANE
	9004	43224	0.02	70.13	1-PENTENE
	9004	43231	0.06	86.17	HEXANE
	9004	43245	0.08	84.16	1-HEXENE
	9004	43248	0.86	84.16	CYCLOHEXANE
	9004	43262	0.00	84.16	METHYLCYCLOPENTANE
	9004	43301	2.92	32.04	METHYL ALCOHOL
	9004	43302	0.18	46.07	ETHYL ALCOHOL
	9004	43304	0.61	60.09	ISO-PROPYL ALCOHOL
	9004	43305	1.12	74.12	N-BUTYL ALCOHOL
	9004	43314	1.52	74.12	S-BUTYL ALCOHOL
	9004	43317	0.16	100.16	CYCLOHEXANOL
	9004	43350	4.22	46.07	DIMETHYLETHER
	9004	43351	0.57	74.12	ETHYL ETHER
	9004	43367	0.05	106.12	GLYCOL ETHER
	9004	43403	0.10	46.03	FORMIC ACID
	9004	43404	1.47	60.05	ACETIC ACID
	9004	43430	0.99	60.05	METHYL FORMATE
	9004	43432	1.38	74.08	METHYLACETATE
	9004	43435	0.06	116.16	N-BUTYL ACETATE
	9004	43438	0.54	100.11	ETHYL ACRYLATE
	9004	43440	0.22	128.17	BUTYL ACRYLATE
	9004	43441	0.43	100.13	METHYL METHACRYLATE
	9004	43453	2.46	86.09	VINYL ACETATE

NOTE: 'H' denotes a header record (contains weight percents of NO, NO2, and formaldehyde)

(continued)

TABLE C-1. (Continued)

Profile Number	SAROAD Code	Weight Percent	Molecular Weight	Species Name
9004	43457	0.38	76.09	METHYLAL
9004	43502	0.03	30.03	FORMALDEHYDE
9004	43503	1.86	44.05	ACETALDEHYDE
9004	43505	1.79	56.07	ACROLEIN
9004	43510	0.01	72.12	BUTYRALDEHYDE
9004	43551	2.31	58.08	ACETONE
9004	43552	1.91	72.10	METHYL ETHYL KETONE
9004	43560	0.25	100.16	METHYL ISOBUTYL KETONE
9004	43561	0.16	98.15	CYCLOHEXANONE
9004	43601	0.07	44.05	ETHYLENE OXIDE
9004	43602	0.02	58.08	PROPYLENE OXIDE
9004	43603	0.30	98.06	MALEIC ANHYDRIDE
9004	43604	0.09	102.09	ACETIC ANHYDRIDE
9004	43704	0.95	53.06	ACRYLONITRILE
9004	43776	1.52	116.20	HEXAMETHYLENEDIAMINE
9004	43801	0.01	50.49	METHYL CHLORIDE
9004	43803	0.04	119.39	CHLOROFORM
9004	43804	0.30	153.84	CARBON TETRACHLORIDE
9004	43805	0.15	173.85	METHYLENE BROMIDE
9004	43811	1.15	137.38	TRICHLOROFLUOROMETHANE
9004	43812	1.28	64.52	ETHYL CHLORIDE
9004	43815	2.52	99.00	ETHYLENE DICHLORIDE
9004	43821	0.09	187.38	TRICHLOROTRIFLUOROETHANE
9004	43823	1.59	120.91	DICHLORODIFLUOROMETHANE
9004	43838	0.08	112.99	PROPYLENE DICHLORIDE
9004	43839	0.15	88.01	TETRAFLUOROMETHANE
9004	43840	0.72	86.47	CHLORODIFLUOROMETHANE
9004	43841	0.07	170.92	DICHLOROTETRAFLUORETHANE
9004	43842	0.07	154.47	CHLOROPENTAFLUOROETHANE
9004	43843	1.80	138.01	HEXAFLUOROETHANE
9004	43844	1.36	70.01	TRIFLUOROMETHANE
9004	43845	0.24	104.46	CHLOROTRIFLUOROMETHANE
9004	43860	1.61	62.50	VINYL CHLORIDE
9004	43862	1.52	88.54	CHLOROPRENE
9004	43933	0.13	60.08	CARBONYL SULFIDE
9004	43934	0.40	76.14	CARBON SULFIDE
9004	45102	0.25	106.16	ISOMERS OF XYLENE
9004	45106	0.05	134.21	ISOMERS OF DIETHYLBENZENE
9004	45201	8.49	78.11	BENZENE
9004	45202	1.80	92.13	TOLUENE
9004	45203	0.65	106.16	ETHYLBENZENE
9004	45204	0.16	106.16	O-XYLENE
9004	45206	0.05	106.16	P-XYLENE
9004	45210	0.00	120.20	CUMENE (ISOPROPYL BENZENE)
9004	45220	3.91	104.14	STYRENE
9004	45300	1.55	94.11	PHENOL
9004	45401	0.02	230.00	XYLENE BASE ACIDS
9004	45402	0.15	122.13	BENZOIC ACID
9004	45403	0.02	166.14	TEREPHTHALIC ACID
9004	45450	0.00	194.19	DIMETHYL TEREPHTHALATE

NOTE: 'H' denotes a header record (contains weight percents of NO, NO2, and formaldehyde)

(continued)

TABLE C-1. (Continued)

	Profile Number	SAROAD Code	Weight Percent	Molecular Weight	Species Name
	9004	45501	0.07	106.13	BENZALDEHYDE
	9004	45601	0.91	148.00	PHTHALIC ANHYDRIDE
	9004	45702	0.00	123.11	NITROBENZENE
	9004	45801	3.02	112.56	CHLOROBENZENE
	9004	45805	0.16	147.01	O-DICHLOROBENZENE
	9004	45806	0.01	147.01	M-DICHLOROBENZENE
	9004	45807	3.22	147.01	P-DICHLOROBENZENE
	9004	45808	0.09	147.01	DICHLOROBENZENES
	9004	99933	0.44	32.04	DENATURANT
	9004	99999	0.29	86.00	UNIDENTIFIED
H	9005	95.00	5.00	0.00	
	9005	43205	20.00	42.08	PROPENE
	9005	43704	12.00	53.06	ACRYLONITRILE
	9005	43860	20.00	62.50	VINYL CHLORIDE
	9005	45203	2.00	106.16	ETHYLBENZENE
	9005	45220	46.00	104.14	STYRENE
H	9006	95.00	5.00	0.00	
	9006	43776	100.00	116.20	HEXAMETHYLENEDIAMINE
H	9007	95.00	5.00	0.00	
	9007	43201	43.35	16.04	METHANE
	9007	43301	1.64	32.04	METHYL ALCOHOL
	9007	43350	55.01	46.07	DIMETHYLETHER
H	9008	95.00	5.00	0.00	
	9008	43302	99.56	46.07	ETHYL ALCOHOL
	9008	43306	0.03	74.12	ISOBUTYL ALCOHOL
	9008	43330	0.09	88.15	ISOAMYL ALCOHOL
	9008	43433	0.32	88.10	ETHYL ACETATE
H	9009	95.00	5.00	0.00	
	9009	43201	29.10	16.04	METHANE
	9009	43202	2.20	30.07	ETHANE
	9009	43203	6.72	28.05	ETHYLENE
	9009	43204	8.08	44.09	PROPANE
	9009	43205	0.98	42.08	PROPENE
	9009	43206	3.20	26.04	ACETYLENE
	9009	43213	0.02	56.10	BUTENE
	9009	43218	0.10	54.09	1,3-BUTADIENE
	9009	43231	1.40	86.17	HEXANE
	9009	43232	7.16	100.20	HEPTANE
	9009	43822	34.64	92.00	TRIMETHYLFLUOROSILANE
	9009	45201	5.54	78.11	BENZENE
	9009	45202	0.86	92.13	TOLUENE
H	9010	95.00	5.00	0.00	
	9010	43502	0.35	30.03	FORMALDEHYDE
	9010	43505	0.17	56.07	ACROLEIN
	9010	43520	12.10	72.12	TOTAL C2-C5 ALDEHYDES
	9010	45201	17.35	78.11	BENZENE
	9010	45202	7.05	92.13	TOLUENE
	9010	45204	2.75	106.16	O-XYLENE
	9010	45205	3.25	106.16	M-XYLENE
	9010	45300	3.20	94.11	PHENOL

NOTE: 'H' denotes a header record (contains weight percents of NO, NO2, and formaldehyde)

(continued)

TABLE C-1. (Continued)

	Profile Number	SAROAD Code	Weight Percent	Molecular Weight	Species Name
	9010	45604	0.04	98.10	FURFURYL ALCOHOL
	9010	45701	35.42	93.13	ANILINE
	9010	45730	0.01	250.27	METHYLENE(B)4-PHENYLISOCYAN
	9010	45740	3.71	93.13	TOTAL AROMATIC AMINES
	9010	46111	0.00	198.17	4,4-METHYLENE DIANILINE
	9010	46112	11.80	119.13	PHENYL ISOCYANATE
	9010	46114	2.75	107.17	4-METHYLANILINE
	9010	46701	0.04	123.11	NAPTHALENE
H	9011	95.00	5.00	0.00	
	9011	43105	4.90	86.17	ISOMERS OF HEXANE
	9011	43106	2.20	100.20	ISOMERS OF HEPTANE
	9011	43107	1.68	114.23	ISOMERS OF OCTANE
	9011	43111	1.92	170.32	ISOMERS OF DODECANE
	9011	43113	0.62	198.38	ISOMERS OF TETRADECANE
	9011	43115	1.32	98.19	C-7 CYCLOPARAFFINS
	9011	43116	0.08	112.23	C-8 CYCLOPARAFFINS
	9011	43117	0.30	126.26	C-9 CYCLOPARAFFINS
	9011	43121	0.10	70.13	ISOMERS OF PENTENE
	9011	43122	3.16	72.15	ISOMERS OF PENTANE
	9011	43130	0.83	154.30	C5 SUBSTITUTED CYCLOHEXANE
	9011	43131	0.62	170.32	C6 SUBSTITUTED CYCLOHEXANE
	9011	43201	18.60	16.04	METHANE
	9011	43202	2.20	30.07	ETHANE
	9011	43203	0.86	28.05	ETHYLENE
	9011	43204	6.54	44.09	PROPANE
	9011	43205	1.18	42.08	PROPENE
	9011	43212	9.74	58.12	N-BUTANE
	9011	43213	2.58	56.10	BUTENE
	9011	43214	3.98	58.12	ISO-BUTANE
	9011	43220	7.12	72.15	N-PENTANE
	9011	43224	0.64	70.13	1-PENTENE
	9011	43231	3.14	86.17	HEXANE
	9011	43232	3.20	100.20	HEPTANE
	9011	43233	0.54	114.23	OCTANE
	9011	43238	0.57	142.28	N-DECANE
	9011	43241	1.56	156.31	N-UNDECANE
	9011	43242	0.50	70.14	CYCLOPENTANE
	9011	43248	0.20	84.16	CYCLOHEXANE
	9011	43255	3.71	170.33	N-DODECANE
	9011	43467	0.48	154.26	C4 SUBSTITUTED CYCLOHEXANON
	9011	43502	1.60	30.03	FORMALDEHYDE
	9011	45107	1.78	120.19	TRIMETHYLBENZENE
	9011	45201	2.86	78.11	BENZENE
	9011	45202	0.78	92.13	TOLUENE
	9011	45703	0.79	207.02	2,2 DICHLORONITROANILINE
	9011	46701	1.31	123.11	NAPTHALENE
	9011	46702	2.04	142.20	METHYL NAPHTHALENES
	9011	46711	2.24	146.23	C2 ALKYL INDAN
	9011	98063	0.41	154.30	N-PENTYLCYCLOHEXANE
	9011	98083	1.12	182.35	TRIMETHYLDECENE

NOTE: 'H' denotes a header record (contains weight percents of NO, NO2, and formaldehyde)

(continued)

TABLE C-1. (Continued)

	Profile Number	SAROAD Code	Weight Percent	Molecular Weight	Species Name
H	9012	95.00	5.00	0.00	
	9012	43105	4.16	86.17	ISOMERS OF HEXANE
	9012	43106	0.63	100.20	ISOMERS OF HEPTANE
	9012	43107	0.40	114.23	ISOMERS OF OCTANE
	9012	43108	0.45	128.25	ISOMERS OF NONANE
	9012	43109	0.28	142.28	ISOMERS OF DECANE
	9012	43115	2.27	98.19	C-7 CYCLOPARAFFINS
	9012	43116	0.66	112.23	C-8 CYCLOPARAFFINS
	9012	43117	0.11	126.26	C-9 CYCLOPARAFFINS
	9012	43122	16.64	72.15	ISOMERS OF PENTANE
	9012	43201	13.01	16.04	METHANE
	9012	43202	6.05	30.07	ETHANE
	9012	43204	19.68	44.09	PROPANE
	9012	43205	1.75	42.08	PROPENE
	9012	43212	7.99	58.12	N-BUTANE
	9012	43213	0.15	56.10	BUTENE
	9012	43214	2.89	58.12	ISO-BUTANE
	9012	43220	4.80	72.15	N-PENTANE
	9012	43231	3.86	86.17	HEXANE
	9012	43232	1.24	100.20	HEPTANE
	9012	43233	1.73	114.23	OCTANE
	9012	43235	0.56	128.25	NONANE
	9012	43238	0.74	142.28	N-DECANE
	9012	43248	0.08	84.16	CYCLOHEXANE
	9012	43502	8.88	30.03	FORMALDEHYDE
	9012	45102	0.19	106.16	ISOMERS OF XYLENE
	9012	45201	0.38	78.11	BENZENE
	9012	45202	0.44	92.13	TOLUENE
H	9013	95.00	5.00	0.00	
	9013	43204	0.03	44.09	PROPANE
	9013	43256	52.71	136.24	A-PINENE
	9013	43257	34.44	136.24	B-PINENE
	9013	90050	1.27	136.24	CAMPHENE
	9013	90051	1.87	136.24	MYRCENE
	9013	90052	1.69	136.24	B-PHELLANDRENE
	9013	90053	7.99	136.24	D-LIMONENE
H	9014	95.00	5.00	0.00	
	9014	43105	8.07	86.17	ISOMERS OF HEXANE
	9014	43106	1.63	100.20	ISOMERS OF HEPTANE
	9014	43107	0.27	114.23	ISOMERS OF OCTANE
	9014	43115	14.40	98.19	C-7 CYCLOPARAFFINS
	9014	43116	2.00	112.23	C-8 CYCLOPARAFFINS
	9014	43218	20.00	54.09	1,3-BUTADIENE
	9014	43231	13.13	86.17	HEXANE
	9014	43232	0.63	100.20	HEPTANE
	9014	43233	0.13	114.23	OCTANE
	9014	43242	0.07	70.14	CYCLOPENTANE
	9014	43248	5.57	84.16	CYCLOHEXANE
	9014	43262	17.13	84.16	METHYLCYCLOPENTANE
	9014	45201	3.50	78.11	BENZENE

NOTE: 'H' denotes a header record (contains weight percents of NO, NO2, and formaldehyde)

(continued)

TABLE C-1. (Continued)

	Profile Number	SAROAD Code	Weight Percent	Molecular Weight	Species Name
	9014	45202	0.13	92.13	TOLUENE
	9014	45220	13.33	104.14	STYRENE
H	9015	95.00	5.00	0.00	
	9015	43105	6.64	86.17	ISOMERS OF HEXANE
	9015	43106	7.79	100.20	ISOMERS OF HEPTANE
	9015	43107	5.79	114.23	ISOMERS OF OCTANE
	9015	43115	1.10	98.19	C-7 CYCLOPARAFFINS
	9015	43116	0.40	112.23	C-8 CYCLOPARAFFINS
	9015	43122	3.20	72.15	ISOMERS OF PENTANE
	9015	43201	53.81	16.04	METHANE
	9015	43202	7.44	30.07	ETHANE
	9015	43204	8.24	44.09	PROPANE
	9015	43212	5.24	58.12	N-BUTANE
	9015	43214	0.25	58.12	ISO-BUTANE
	9015	45201	0.10	78.11	BENZENE
H	9016	95.00	5.00	0.00	
	9016	43132	9.97	100.00	ALIPHATICS
	9016	43133	1.81	352.43	PARAFFINS (C16-C34)
	9016	43134	0.04	197.38	PARAFFINS/OLEFINS (C12-C16)
	9016	43318	0.20	130.23	2-ETHYL HEXANOL
	9016	43408	19.78	256.43	PALMITIC ACID
	9016	43454	8.26	270.46	METHYL PALMITATE
	9016	43455	3.08	242.41	METHYL MYRISTATE
	9016	43456	10.67	298.52	METHYL STEARATE
	9016	43460	0.00	314.28	METHYL C11 ESTER
	9016	43461	0.01	338.56	METHYL C12 ESTER
	9016	43462	0.00	362.58	METHYL C13 ESTER
	9016	43463	0.04	386.60	METHYL C14 ESTER
	9016	43464	0.02	410.62	METHYL C15 ESTER
	9016	43465	0.01	506.68	METHYL C19 ESTER
	9016	43466	0.00	530.70	METHYL C20 ESTER
	9016	43470	0.01	214.35	METHYL DODECANOATE
	9016	43650	0.27	86.00	OXYGENATES
	9016	43780	0.21	59.11	DIMETHYL ALKYL AMINES
	9016	43950	1.06	296.62	OCTAMETHYLCYCLOTETRASILOXAN
	9016	43951	0.58	76.08	SILOXANE
	9016	45109	2.78	134.21	C3/C4/C5 ALKYLBENZENES
	9016	45226	1.30	154.21	BIPHENYL
	9016	45227	0.09	168.24	METHYL BIPHENYL
	9016	45228	2.97	132.21	ETHYL STYRENE
	9016	45229	0.32	130.02	DIVINYL BENZENE
	9016	45230	0.00	210.32	DI(ETHYLPHENYL) ETHANE
	9016	45232	0.71	182.27	DIPHENYL ETHANE
	9016	45233	1.22	210.32	ETHYL-PHENYL-PHENYL-ETHANE
	9016	45310	0.03	122.16	C8 PHENOLS
	9016	45311	0.13	136.19	C9 PHENOLS
	9016	45402	0.87	122.13	BENZOIC ACID
	9016	45451	5.73	194.19	DIMETHYL PHTHALATE
	9016	45452	0.40	278.35	DIBUTYL PHTHALATE
	9016	45454	0.01	250.30	DIPROPYL PHTHALATE

NOTE: 'H' denotes a header record (contains weight percents of NO, NO2, and formaldehyde)

(continued)

TABLE C-1. (Continued)

	Profile Number	SAROAD Code	Weight Percent	Molecular Weight	Species Name
	9016	45455	21.07	178.23	BUTYL BENZOATE
	9016	45470	0.31	300.53	DI-C8 ALKYL PHTHALATE
	9016	45703	0.11	207.02	2,2 DICHLORONITROANILINE
	9016	45704	0.01	262.03	BROMODINITROANILINE
	9016	45705	1.08	247.02	BROMODINITROBENZENE
	9016	45808	0.06	147.01	DICHLOROBENZENES
	9016	45830	1.45	181.45	TRICHLOROBENZENES
	9016	45831	0.07	215.90	TETRACHLOROBENZENES
	9016	46102	1.30	208.23	ANTHRAQUINONE
	9016	46103	0.02	223.23	AMINOANTHRAQUINONE
	9016	46701	1.00	123.11	NAPTHALENE
	9016	46702	0.22	142.20	METHYL NAPHTHALENES
	9016	46703	0.27	156.23	DIMETHYL NAPTHALENE
	9016	99999	0.43	86.00	UNIDENTIFIED
H	9017	95.00	5.00	0.00	
	9017	43109	1.36	142.28	ISOMERS OF DECANE
	9017	43110	0.95	156.30	ISOMERS OF UNDECANE
	9017	43111	0.18	170.32	ISOMERS OF DODECANE
	9017	43112	0.01	184.36	ISOMERS OF TRIDECANE
	9017	43113	0.01	198.38	ISOMERS OF TETRADECANE
	9017	43124	0.00	127.05	C9 OLEFINS
	9017	43125	0.29	140.27	C10 OLEFINS
	9017	43135	0.06	142.28	C10 PARAFFINS
	9017	43136	0.00	128.25	C9 PARAFFIN
	9017	43138	0.09	112.23	C-8 OLEFINS
	9017	43141	0.00	114.23	C8 PARAFFIN
	9017	43146	0.11	154.29	C11 OLEFINS
	9017	43147	0.02	168.32	C12 OLEFINS
	9017	43148	0.04	124.23	ISOMERS OF C9H16
	9017	43150	0.01	138.25	ISOMERS OF C10H18
	9017	43151	0.02	152.28	ISOMERS OF C11H20
	9017	43152	0.00	166.31	C12H22
	9017	43153	0.01	136.24	C10H16
	9017	43231	0.01	86.17	HEXANE
	9017	43232	2.57	100.20	HEPTANE
	9017	43235	0.85	128.25	NONANE
	9017	43248	0.01	84.16	CYCLOHEXANE
	9017	43261	0.56	98.21	METHYLCYCLOHEXANE
	9017	43288	0.07	112.23	ETHYLCYCLOHEXANE
	9017	43301	7.14	32.04	METHYL ALCOHOL
	9017	43302	2.14	46.07	ETHYL ALCOHOL
	9017	43314	0.05	74.12	S-BUTYL ALCOHOL
	9017	43336	0.01	130.26	OCTANOL
	9017	43351	0.06	74.12	ETHYL ETHER
	9017	43397	0.01	142.24	TRIMETHYLCYCLOHEXANOL
	9017	43551	0.10	58.08	ACETONE
	9017	43552	0.08	72.10	METHYL ETHYL KETONE
	9017	43565	0.02	98.14	DIMETHYLCYCLOBUTANONE
	9017	43566	0.01	125.11	TRIMETHYLCYCLOPENTANONE
	9017	43567	0.05	157.25	TETRAMETHYLPENTANONE

NOTE: 'H' denotes a header record (contains weight percents of NO, NO2, and formaldehyde)

(continued)

TABLE C-1. (Continued)

Profile Number	SAROAD Code	Weight Percent	Molecular Weight	Species Name
9017	43802	12.44	84.94	DICHLOROMETHANE
9017	43811	7.14	137.38	TRICHLOROFLUOROMETHANE
9017	43814	8.74	133.42	1,1,1-TRICHLOROETHANE
9017	43817	13.53	165.83	PERCHLOROETHYLENE
9017	43820	7.14	133.42	1,1,2-TRICHLOROETHANE
9017	43821	7.65	187.38	TRICHLOROTRIFLUOROETHANE
9017	43824	8.65	131.40	TRICHLOROETHYLENE
9017	45102	0.24	106.16	ISOMERS OF XYLENE
9017	45105	0.44	134.22	ISOMERS OF BUTYLBENZENE
9017	45107	0.28	120.19	TRIMETHYLBENZENE
9017	45108	0.17	120.19	ISOMERS OF PROPYLBENZENE
9017	45113	0.00	142.20	C11H10
9017	45201	0.07	78.11	BENZENE
9017	45202	9.27	92.13	TOLUENE
9017	45203	0.03	106.16	ETHYLBENZENE
9017	45204	0.18	106.16	O-XYLENE
9017	45209	0.04	120.19	N-PROPYLBENZENE
9017	45210	0.04	120.20	CUMENE (ISOPROPYL BENZENE)
9017	45215	0.03	134.21	TERT-BUTYLBENZENE
9017	45238	0.03	120.19	ETHYLTOLUENE
9017	45245	0.02	148.24	C5-ALKYLBENZENES
9017	45303	0.04	150.22	C4-ALKYLPHENOLS
9017	45304	0.02	164.25	C5-ALKYLPHENOLS
9017	45320	0.02	122.16	DIMETHYLBENZYLALCOHOL
9017	45801	0.02	112.56	CHLOROBENZENE
9017	45808	0.00	147.01	DICHLOROBENZENES
9017	46202	0.02	244.00	OCTAHYDROINDENES
9017	46601	0.01	132.25	TETRAMETHYLTHIOUREA
9017	46602	0.00	135.19	BENZOTHIAZOLE
9017	46701	0.04	123.11	NAPTHALENE
9017	46747	0.00	132.21	METHYLINDANS
9017	46748	0.05	170.34	METHYLDECALINS
9017	46753	0.07	138.25	DECALINS
9017	90010	0.26	106.16	M-XYLENE AND P-XYLENE
9017	90028	0.39	100.20	METHYLHEXANE
9017	90029	0.04	98.18	METHYLHEXENES
9017	90045	0.00	114.23	METHYLHEPTANE
9017	90047	0.58	142.28	METHYLNONANE
9017	90048	0.49	156.32	METHYLDECANES
9017	90049	0.09	170.34	METHYLUNDECANE
9017	90055	0.04	154.29	PENTYLCYCLOHEXANE
9017	90064	0.22	99.19	DIMETHYLCYCLOPENTANE
9017	90066	0.02	124.23	NONADIENE
9017	90067	0.10	114.23	DIMETHYLHEXANES
9017	90070	0.64	140.27	DIMETHYLOCTANES
9017	90071	0.02	184.36	DIMETHYLUNDECANE
9017	90072	0.32	168.32	METHYLPROPYLCYCLOHEXANES
9017	90073	0.02	140.27	METHYLISOPROPYLCYCLOHEXANE
9017	90074	0.02	225.43	DIMETHYLDECANE
9017	90075	0.01	100.16	ETHYLOCTENE

NOTE: 'H' denotes a header record (contains weight percents of NO, NO2, and formaldehyde)

(continued)

TABLE C-1. (Continued)

	Profile Number	SAROAD Code	Weight Percent	Molecular Weight	Species Name
	9017	90076	0.28	211.41	DIMETHYLNONANES
	9017	90077	0.02	142.29	ETHYLOCTANE
	9017	90080	0.00	112.21	ETHYLMETHYLCYCLOPENTANE
	9017	90081	0.04	114.23	ETHYLHEXANE
	9017	90082	0.01	128.26	ETHYLMETHYLHEXANE
	9017	90083	0.57	126.24	ETHYLMETHYLCYCLOHEXANES
	9017	90085	0.02	156.31	ETHYLMETHYLOCTANE
	9017	90089	0.08	141.27	ETHYLDIMETHYLCYCLOHEXANE
	9017	90090	0.06	154.29	ETHYLPROPYLCYCLOHEXANES
	9017	90091	0.00	110.19	TETRAMETHYLCYCLOBUTENE
	9017	90094	0.56	142.29	TRIMETHYLHEPTANES
	9017	90095	0.03	126.24	TRIMETHYLHEXENE
	9017	90096	0.04	156.31	TRIMETHYLOCTANES
	9017	90097	0.00	182.35	TRIMETHYLDECANE
	9017	90098	0.07	126.24	TETRAMETHYLCYCLOPENTANE
	9017	90101	0.19	140.27	BUTYLCYCLOHEXANE
	9017	90102	0.01	183.35	METHYLPROPYLNONANE
	9017	90104	0.35	128.26	METHYLOCTANES
	9017	90105	0.07	141.23	PROPENYLCYCLOHEXANE
	9017	90106	0.01	140.26	METHYLNONENE
	9017	90107	0.08	154.29	METHYLDECENE
	9017	90108	0.01	184.36	METHYLDODECANE
	9017	90109	0.05	141.28	PROPYLHEPTENES
	9017	90110	0.05	111.20	DIETHYLMETHYLCYCLOHEXANES
	9017	90111	0.04	140.27	ISOPROPYLMETHYLCYCLOHEXANE
	9017	90112	0.01	138.25	DIMETHYLOCTYNE
	9017	90113	0.01	443.11	PENTYLIDENECYCLOHEXANE
	9017	90114	0.00	168.32	DIMETHYLBUTYLCYCLOHEXANE
	9017	90118	0.01	225.20	OCTAHYDROPENTALENE
	9017	90120	0.18	126.24	PROPYLCYCLOHEXANE
	9017	98058	0.11	112.16	TRIMETHYLCYCLOPENTANE
	9017	98059	0.07	112.12	DIMETHYLCYCLOHEXANE
	9017	98060	0.24	129.27	TRIMETHYLCYCLOHEXANES
	9017	98062	0.06	140.27	DIETHYLCYCLOHEXANE
	9017	98063	0.01	154.30	N-PENTYLCYCLOHEXANE
	9017	98082	0.01	127.05	ETHYLHEPTENE
	9017	98091	0.05	128.26	DIMETHYLHEPTANES
H	9021	95.00	5.00	0.00	
	9021	43107	0.03	114.23	ISOMERS OF OCTANE
	9021	43108	1.44	128.25	ISOMERS OF NONANE
	9021	43109	2.53	142.28	ISOMERS OF DECANE
	9021	43110	0.17	156.30	ISOMERS OF UNDECANE
	9021	43119	3.33	114.00	LACTOL SPIRITS
	9021	43122	1.87	72.15	ISOMERS OF PENTANE
	9021	43125	0.24	140.27	C10 OLEFINS
	9021	43126	0.10	112.22	C2 CYCLOHEXANE
	9021	43127	0.07	126.24	C3 CYCLOHEXANE
	9021	43128	0.03	154.30	C5 CYCLOHEXANE
	9021	43129	0.10	142.28	C4 SUBSTITUTED CYCLOHEXANE
	9021	43150	0.15	138.25	ISOMERS OF C10H18

NOTE: 'H' denotes a header record (contains weight percents of NO, NO2, and formaldehyde)

(continued)

TABLE C-1. (Continued)

Profile Number	SAROAD Code	Weight Percent	Molecular Weight	Species Name
9021	43231	0.41	86.17	HEXANE
9021	43232	1.87	100.20	HEPTANE
9021	43238	0.01	142.28	N-DECANE
9021	43241	0.09	156.31	N-UNDECANE
9021	43247	0.15	100.20	2,4-DIMETHYLPENTANE
9021	43248	0.57	84.16	CYCLOHEXANE
9021	43261	0.94	98.21	METHYLCYCLOHEXANE
9021	43262	0.11	84.16	METHYLCYCLOPENTANE
9021	43277	0.64	114.22	2,4-DIMETHYLHEXANE
9021	43288	0.14	112.23	ETHYLCYCLOHEXANE
9021	43301	3.33	32.04	METHYL ALCOHOL
9021	43302	3.33	46.07	ETHYL ALCOHOL
9021	43304	3.70	60.09	ISO-PROPYL ALCOHOL
9021	43305	4.00	74.12	N-BUTYL ALCOHOL
9021	43308	0.55	118.17	BUTYL CELLOSOLVE
9021	43311	3.33	90.12	CELLOSOLVE
9021	43312	0.03	162.18	2-(2-BUTOXYETHOXY)-ETHANOL
9021	43313	0.05	104.15	1-ETHOXY-2-PROPANOL
9021	43318	0.03	130.23	2-ETHYL HEXANOL
9021	43320	0.03	116.16	DIACETONE ALCOHOL
9021	43322	0.37	90.12	1,4 BUTANEDIOL
9021	43367	0.10	106.12	GLYCOL ETHER
9021	43370	0.02	62.07	ETHYLENE GLYCOL
9021	43371	3.38	118.18	HEXYLENE GLYCOL
9021	43372	0.01	130.23	DIBUTYL ETHER
9021	43377	3.33	134.18	CARBITOL
9021	43391	0.01	128.19	2-BUTYLTETRAHYDROFURAN
9021	43432	3.33	74.08	METHYLACETATE
9021	43433	4.14	88.10	ETHYL ACETATE
9021	43435	5.05	116.16	N-BUTYL ACETATE
9021	43444	3.33	102.13	ISOPROPYL ACETATE
9021	43450	3.33	73.09	DIMETHYL FORMAMIDE
9021	43452	3.33	132.16	CELLOSOLVE ACETATE
9021	43453	0.00	86.09	VINYL ACETATE
9021	43454	0.01	270.46	METHYL PALMITATE
9021	43457	0.90	76.09	METHYLAL
9021	43458	0.95	218.24	SUBSTITUTED C9 ESTER (C12)
9021	43459	0.23	130.19	C5 ESTER
9021	43551	5.77	58.08	ACETONE
9021	43552	5.50	72.10	METHYL ETHYL KETONE
9021	43560	0.79	100.16	METHYL ISOBUTYL KETONE
9021	43562	0.18	114.21	METHYL AMYL KETONE
9021	43563	0.67	114.19	2-METHYL-3-HEXANONE
9021	43570	0.07	72.10	ALKENE KETONE
9021	43601	3.33	44.05	ETHYLENE OXIDE
9021	43801	0.02	50.49	METHYL CHLORIDE
9021	43802	0.22	84.94	DICHLOROMETHANE
9021	43812	0.02	64.52	ETHYL CHLORIDE
9021	43835	0.07	92.57	1-CHLOROBUTANE
9021	43836	0.02	148.68	3-(CHLOROMETHYL)-HEPTANE

NOTE: 'H' denotes a header record (contains weight percents of NO, NO2, and formaldehyde)

(continued)

TABLE C-1. (Continued)

	Profile Number	SAROAD Code	Weight Percent	Molecular Weight	Species Name
	9021	43837	0.03	187.88	ETHYLENE DIBROMIDE
	9021	45101	3.33	114.00	NAPHTHA
	9021	45102	4.82	106.16	ISOMERS OF XYLENE
	9021	45104	0.25	120.19	ISOMERS OF ETHYLTOLUENE
	9021	45107	0.34	120.19	TRIMETHYLBENZENE
	9021	45108	0.04	120.19	ISOMERS OF PROPYLBENZENE
	9021	45201	0.05	78.11	BENZENE
	9021	45202	6.72	92.13	TOLUENE
	9021	45203	0.42	106.16	ETHYLBENZENE
	9021	45204	0.71	106.16	O-XYLENE
	9021	45205	0.06	106.16	M-XYLENE
	9021	45206	0.04	106.16	P-XYLENE
	9021	45501	0.03	106.13	BENZALDEHYDE
	9021	45502	0.04	120.16	P-TOLUALDEHYDE
	9021	45601	0.03	148.00	PHTHALIC ANHYDRIDE
	9021	98057	0.06	98.19	ETHYLCYCLOPENTANE
	9021	98058	0.05	112.16	TRIMETHYLCYCLOPENTANE
	9021	98059	0.34	112.12	DIMETHYLCYCLOHEXANE
	9021	98060	0.16	129.27	TRIMETHYLCYCLOHEXANES
	9021	98062	0.27	140.27	DIETHYLCYCLOHEXANE
	9021	98082	0.08	127.05	ETHYLHEPTENE
	9021	98090	0.04	112.22	METHYLHEPTENE
	9021	98091	0.06	128.26	DIMETHYLHEPTANES
	9021	98106	0.17	88.15	ETHYLISOPROPYL ETHER
H	9022	95.00	5.00	0.00	
	9022	43121	3.93	70.13	ISOMERS OF PENTENE
	9022	43123	0.03	136.23	TERPENES
	9022	43201	59.71	16.04	METHANE
	9022	43202	0.93	30.07	ETHANE
	9022	43203	9.37	28.05	ETHYLENE
	9022	43204	0.67	44.09	PROPANE
	9022	43205	0.17	42.08	PROPENE
	9022	43206	0.63	26.04	ACETYLENE
	9022	43212	0.70	58.12	N-BUTANE
	9022	43213	1.97	56.10	BUTENE
	9022	43214	0.67	58.12	ISO-BUTANE
	9022	43220	0.67	72.15	N-PENTANE
	9022	43224	3.93	70.13	1-PENTENE
	9022	43231	4.63	86.17	HEXANE
	9022	43232	4.63	100.20	HEPTANE
	9022	43233	4.60	114.23	OCTANE
	9022	43242	0.03	70.14	CYCLOPENTANE
	9022	43817	0.10	165.83	PERCHLOROETHYLENE
	9022	45102	0.03	106.16	ISOMERS OF XYLENE
	9022	45201	2.57	78.11	BENZENE
	9022	45202	0.03	92.13	TOLUENE
H	9023	95.00	5.00	0.00	
	9023	43107	0.04	114.23	ISOMERS OF OCTANE
	9023	43108	1.55	128.25	ISOMERS OF NONANE
	9023	43109	3.61	142.28	ISOMERS OF DECANE

NOTE: 'H' denotes a header record (contains weight percents of NO, NO2, and formaldehyde)

(continued)

TABLE C-1. (Continued)

	Profile Number	SAROAD Code	Weight Percent	Molecular Weight	Species Name
	9023	43110	0.20	156.30	ISOMERS OF UNDECANE
	9023	43119	4.76	114.00	LACTOL SPIRITS
	9023	43125	0.34	140.27	C10 OLEFINS
	9023	43126	0.14	112.22	C2 CYCLOHEXANE
	9023	43127	0.09	126.24	C3 CYCLOHEXANE
	9023	43128	0.04	154.30	C5 CYCLOHEXANE
	9023	43129	0.14	142.28	C4 SUBSTITUTED CYCLOHEXANE
	9023	43150	0.21	138.25	ISOMERS OF C10H18
	9023	43232	0.15	100.20	HEPTANE
	9023	43241	0.12	156.31	N-UNDECANE
	9023	43261	0.32	98.21	METHYLCYCLOHEXANE
	9023	43301	4.76	32.04	METHYL ALCOHOL
	9023	43302	4.76	46.07	ETHYL ALCOHOL
	9023	43304	5.00	60.09	ISO-PROPYL ALCOHOL
	9023	43305	4.76	74.12	N-BUTYL ALCOHOL
	9023	43311	4.76	90.12	CELLOSOLVE
	9023	43371	4.76	118.18	HEXYLENE GLYCOL
	9023	43377	4.76	134.18	CARBITOL
	9023	43432	4.76	74.08	METHYLACETATE
	9023	43433	4.76	88.10	ETHYL ACETATE
	9023	43435	5.20	116.16	N-BUTYL ACETATE
	9023	43444	4.76	102.13	ISOPROPYL ACETATE
	9023	43450	4.76	73.09	DIMETHYL FORMAMIDE
	9023	43452	4.76	132.16	CELLOSOLVE ACETATE
	9023	43551	4.76	58.08	ACETONE
	9023	43552	4.96	72.10	METHYL ETHYL KETONE
	9023	43570	0.09	72.10	ALKENE KETONE
	9023	43601	4.76	44.05	ETHYLENE OXIDE
	9023	43802	0.06	84.94	DICHLOROMETHANE
	9023	43837	0.04	187.88	ETHYLENE DIBROMIDE
	9023	45101	4.76	114.00	NAPHTHA
	9023	45102	4.76	106.16	ISOMERS OF XYLENE
	9023	45202	0.72	92.13	TOLUENE
	9023	45203	0.04	106.16	ETHYLBENZENE
	9023	45205	0.08	106.16	M-XYLENE
	9023	45206	0.05	106.16	P-XYLENE
	9023	45501	0.04	106.13	BENZALDEHYDE
	9023	45502	0.05	120.16	P-TOLUALDEHYDE
	9023	45601	0.04	148.00	PHTHALIC ANHYDRIDE
	9023	98062	0.38	140.27	DIETHYLCYCLOHEXANE
	9023	98082	0.11	127.05	ETHYLHEPTENE
H	9024	95.00	5.00	0.00	
	9024	43105	2.86	86.17	ISOMERS OF HEXANE
	9024	43115	0.42	98.19	C-7 CYCLOPARAFFINS
	9024	43116	0.16	112.23	C-8 CYCLOPARAFFINS
	9024	43122	0.49	72.15	ISOMERS OF PENTANE
	9024	43201	2.01	16.04	METHANE
	9024	43202	1.81	30.07	ETHANE
	9024	43204	5.70	44.09	PROPANE
	9024	43212	8.78	58.12	N-BUTANE

NOTE: 'H' denotes a header record (contains weight percents of NO, NO2, and formaldehyde)

(continued)

TABLE C-1. (Continued)

	Profile Number	SAROAD Code	Weight Percent	Molecular Weight	Species Name
	9024	43214	0.49	58.12	ISO-BUTANE
	9024	43220	4.73	72.15	N-PENTANE
	9024	43231	2.56	86.17	HEXANE
	9024	43232	3.01	100.20	HEPTANE
	9024	43233	2.40	114.23	OCTANE
	9024	43235	1.52	128.25	NONANE
	9024	43238	6.35	142.28	N-DECANE
	9024	43241	6.57	156.31	N-UNDECANE
	9024	43255	5.89	170.33	N-DODECANE
	9024	43258	5.73	184.36	N-TRIDECANE
	9024	43259	3.79	198.38	N-TETRADECANE
	9024	43260	2.33	212.41	N-PENTADECANE
	9024	45201	32.41	78.11	BENZENE
H	9025	95.00	5.00	0.00	
	9025	43105	1.75	86.17	ISOMERS OF HEXANE
	9025	43106	3.41	100.20	ISOMERS OF HEPTANE
	9025	43107	0.65	114.23	ISOMERS OF OCTANE
	9025	43108	0.15	128.25	ISOMERS OF NONANE
	9025	43109	0.02	142.28	ISOMERS OF DECANE
	9025	43120	0.82	56.10	ISOMERS OF BUTENE
	9025	43122	18.58	72.15	ISOMERS OF PENTANE
	9025	43124	0.10	127.05	C9 OLEFINS
	9025	43125	0.00	140.27	C10 OLEFINS
	9025	43138	0.07	112.23	C-8 OLEFINS
	9025	43201	3.02	16.04	METHANE
	9025	43202	0.97	30.07	ETHANE
	9025	43204	6.33	44.09	PROPANE
	9025	43212	23.61	58.12	N-BUTANE
	9025	43214	11.35	58.12	ISO-BUTANE
	9025	43216	0.80	56.11	T-2-BUTENE
	9025	43217	0.62	56.11	CIS-2-BUTENE
	9025	43220	8.28	72.15	N-PENTANE
	9025	43223	0.23	70.13	3-METHYL-1-BUTENE
	9025	43224	0.59	70.13	1-PENTENE
	9025	43225	0.95	70.13	2-METHYL-1-BUTENE
	9025	43226	0.93	70.13	TRANS-2-PENTENE
	9025	43227	0.46	70.13	CIS-2-PENTENE
	9025	43228	0.36	70.13	2-METHYL-2-BUTENE
	9025	43230	1.58	86.17	3-METHYL PENTANE
	9025	43231	2.88	86.17	HEXANE
	9025	43232	1.09	100.20	HEPTANE
	9025	43233	0.09	114.23	OCTANE
	9025	43235	0.01	128.25	NONANE
	9025	43238	0.00	142.28	N-DECANE
	9025	43242	0.49	70.14	CYCLOPENTANE
	9025	43245	0.23	84.16	1-HEXENE
	9025	43247	0.42	100.20	2,4-DIMETHYLPENTANE
	9025	43248	0.27	84.16	CYCLOHEXANE
	9025	43250	0.17	114.22	2,2,4-TRIMETHYLPENTANE
	9025	43252	0.07	114.22	2,3,4-TRIMETHYLPENTANE

NOTE: 'H' denotes a header record (contains weight percents of NO, NO2, and formaldehyde)

(continued)

TABLE C-1. (Continued)

	Profile Number	SAROAD Code	Weight Percent	Molecular Weight	Species Name
	9025	43261	0.23	98.21	METHYLCYCLOHEXANE
	9025	43262	1.44	84.16	METHYLCYCLOPENTANE
	9025	43265	0.02	112.21	OCTENE
	9025	43270	0.03	84.16	3-METHYL-T-2-PENTENE
	9025	43271	0.19	128.26	3,5,5-TRIMETHYLHEXANE
	9025	43278	0.16	114.22	2,5-DIMETHYLHEXANE
	9025	43284	0.04	84.16	2-METHYL-2-PENTENE
	9025	43289	0.24	84.16	C6 OLEFINS
	9025	43291	0.75	86.17	2,2-DIMETHYLBUTANE
	9025	43292	0.17	68.11	CYCLOPENTENE
	9025	43293	0.16	84.18	4-METHYL-T-2-PENTENE
	9025	43294	0.05	98.18	C7 OLEFINS
	9025	43295	0.54	100.20	3-METHYLHEXANE
	9025	43298	0.17	114.23	3-METHYLHEPTANE
	9025	43299	0.08	96.17	1-METHYLCYCLOHEXENE
	9025	43820	0.01	133.42	1,1,2-TRICHLOROETHANE
	9025	45102	0.31	106.16	ISOMERS OF XYLENE
	9025	45109	0.01	134.21	C3/C4/C5 ALKYLBENZENES
	9025	45110	0.00	134.22	C10 AROMATIC
	9025	45201	1.63	78.11	BENZENE
	9025	45202	1.43	92.13	TOLUENE
	9025	45203	0.09	106.16	ETHYLBENZENE
	9025	45204	0.13	106.16	O-XYLENE
	9025	45207	0.02	120.19	1,3,5-TRIMETHYLBENZENE
	9025	45208	0.05	120.19	1,2,4-TRIMETHYLBENZENE
	9025	45209	0.01	120.19	N-PROPYLBENZENE
	9025	45210	0.00	120.20	CUMENE (ISOPROPYL BENZENE)
	9025	45211	0.03	120.19	O-ETHYLTOLUENE
	9025	45212	0.03	120.19	M-ETHYLTOLUENE
	9025	45215	0.00	134.21	TERT-BUTYLBENZENE
	9025	45218	0.00	134.22	M-DIETHYLBENZENE
	9025	45225	0.03	120.19	1,2,3-TRIMETHYLBENZENE
	9025	45801	0.01	112.56	CHLOROBENZENE
	9025	46701	0.00	123.11	NAPTHALENE
	9025	46712	0.00	116.16	INDENE
	9025	90013	0.01	112.21	C-2-OCTENE
	9025	98033	0.07	128.26	2,2,5-TRIMETHYLHEXANE
	9025	98034	0.25	84.16	T-2-HEXENE
	9025	98035	0.20	84.16	C-2-HEXENE
	9025	98040	0.02	84.16	2-METHYL-1-PENTENE
	9025	98041	0.01	98.19	3-HEPTENE
	9025	98044	0.00	118.18	INDANE
	9025	98054	0.02	112.22	2,4,4-TRIMETHYL-1-PENTENE
	9025	98056	0.00	86.14	ISOVALERALDEHYDE
H	9026	95.00	5.00	0.00	
	9026	43114	0.02	212.41	ISOMERS OF PENTADECANE
	9026	43118	16.75	114.00	MINERAL SPIRITS
	9026	43125	0.02	140.27	C10 OLEFINS
	9026	43155	0.46	240.47	ISOMERS OF HEPTADECANE
	9026	43156	0.21	254.50	ISOMERS OF OCTADECANE

NOTE: 'H' denotes a header record (contains weight percents of NO, NO2, and formaldehyde)

(continued)

TABLE C-1. (Continued)

Profile Number	SAROAD Code	Weight Percent	Molecular Weight	Species Name
9026	43201	10.01	16.04	METHANE
9026	43202	3.00	30.07	ETHANE
9026	43203	0.25	28.05	ETHYLENE
9026	43204	1.50	44.09	PROPANE
9026	43205	4.20	42.08	PROPENE
9026	43212	0.13	58.12	N-BUTANE
9026	43213	1.70	56.10	BUTENE
9026	43224	1.49	70.13	1-PENTENE
9026	43248	1.82	84.16	CYCLOHEXANE
9026	43273	0.03	82.14	CYCLOHEXENE
9026	43301	0.75	32.04	METHYL ALCOHOL
9026	43304	0.75	60.09	ISO-PROPYL ALCOHOL
9026	43305	0.75	74.12	N-BUTYL ALCOHOL
9026	43332	0.01	159.29	DIMETHYLOCTANOL
9026	43333	0.01	145.26	DIMETHYLHEPTANOL
9026	43334	0.01	131.24	METHYLHEPTANOL
9026	43335	0.01	120.00	METHOXYETHOXYETHANOL
9026	43377	12.50	134.18	CARBITOL
9026	43434	3.43	102.15	N-PROPYL ACETATE
9026	43435	1.00	116.16	N-BUTYL ACETATE
9026	43444	3.76	102.13	ISOPROPYL ACETATE
9026	43474	0.00	100.13	METHYLMETHYLPROPENOATE
9026	43475	0.00	144.22	METHYLETHYLPENTANOATE
9026	43502	2.73	30.03	FORMALDEHYDE
9026	43551	3.06	58.08	ACETONE
9026	43552	6.78	72.10	METHYL ETHYL KETONE
9026	43560	14.35	100.16	METHYL ISOBUTYL KETONE
9026	45102	0.50	106.16	ISOMERS OF XYLENE
9026	45106	0.88	134.21	ISOMERS OF DIETHYLBENZENE
9026	45202	2.44	92.13	TOLUENE
9026	45203	0.75	106.16	ETHYLBENZENE
9026	45304	0.02	164.25	C5-ALKYLPHENOLS
9026	45330	0.01	170.00	BIPHENYLOL
9026	45402	0.00	122.13	BENZOIC ACID
9026	45452	1.25	278.35	DIBUTYL PHTHALATE
9026	45456	1.60	171.22	BUTYLISOPROPYLPHTHALATE
9026	45706	0.01	169.24	N-PHENYLANILINE
9026	45731	0.00	174.17	TOLUENE DIISOCYANATE
9026	90030	0.41	226.45	HEXADECANE
9026	90049	0.21	170.34	METHYLUNDECANE
9026	90071	0.03	184.36	DIMETHYLUNDECANE
9026	90077	0.06	142.29	ETHYLOCTANE
9026	90096	0.10	156.31	TRIMETHYLOCTANES
9026	90097	0.04	182.35	TRIMETHYLDECANE
9026	90125	0.04	296.59	HENEICOSANE
9026	90126	0.06	282.56	EICOSANE
9026	90127	0.11	268.53	NONADECANE
9026	90130	0.01	204.41	CARYOPHYLLENE
H 9027	95.00	5.00	0.00	
9027	43105	0.05	86.17	ISOMERS OF HEXANE

NOTE: 'H' denotes a header record (contains weight percents of NO, NO2, and formaldehyde)

(continued)

TABLE C-1. (Continued)

Profile Number	SAROAD Code	Weight Percent	Molecular Weight	Species Name
9027	43109	0.05	142.28	ISOMERS OF DECANE
9027	43110	0.04	156.30	ISOMERS OF UNDECANE
9027	43111	0.02	170.32	ISOMERS OF DODECANE
9027	43113	0.01	198.38	ISOMERS OF TETRADECANE
9027	43115	0.02	98.19	C-7 CYCLOPARAFFINS
9027	43124	0.05	127.05	C9 OLEFINS
9027	43125	0.02	140.27	C10 OLEFINS
9027	43135	0.00	142.28	C10 PARAFFINS
9027	43136	0.24	128.25	C9 PARAFFIN
9027	43138	0.10	112.23	C-8 OLEFINS
9027	43141	1.93	114.23	C8 PARAFFIN
9027	43142	0.02	100.20	C7 PARAFFINS
9027	43143	0.95	70.13	C5 OLEFIN
9027	43144	1.04	72.15	C5 PARAFFIN
9027	43145	0.54	70.13	C5 PARAFFIN/OLEFIN
9027	43146	0.02	154.29	C11 OLEFINS
9027	43148	0.01	124.23	ISOMERS OF C9H16
9027	43149	0.00	110.20	C8H14
9027	43201	1.30	16.04	METHANE
9027	43202	1.86	30.07	ETHANE
9027	43204	7.92	44.09	PROPANE
9027	43212	15.15	58.12	N-BUTANE
9027	43213	0.07	56.10	BUTENE
9027	43220	9.28	72.15	N-PENTANE
9027	43231	6.37	86.17	HEXANE
9027	43232	6.34	100.20	HEPTANE
9027	43233	4.81	114.23	OCTANE
9027	43242	0.08	70.14	CYCLOPENTANE
9027	43261	0.10	98.21	METHYLCYCLOHEXANE
9027	43262	0.34	84.16	METHYLCYCLOPENTANE
9027	43264	0.01	98.18	HEPTENE
9027	43272	0.22	82.14	METHYLCYCLOPENTENE
9027	43273	0.02	82.14	CYCLOHEXENE
9027	43288	0.04	112.23	ETHYLCYCLOHEXANE
9027	43292	0.09	68.11	CYCLOPENTENE
9027	43395	0.02	112.17	C7H12O
9027	43565	0.02	98.14	DIMETHYLCYCLOBUTANONE
9027	45105	1.60	134.22	ISOMERS OF BUTYLBENZENE
9027	45106	0.01	134.21	ISOMERS OF DIETHYLBENZENE
9027	45107	2.15	120.19	TRIMETHYLBENZENE
9027	45108	0.38	120.19	ISOMERS OF PROPYLBENZENE
9027	45111	0.02	132.22	C10H12
9027	45112	0.00	130.19	ISOMERS OF C10H10
9027	45201	1.62	78.11	BENZENE
9027	45202	7.63	92.13	TOLUENE
9027	45203	2.04	106.16	ETHYLBENZENE
9027	45204	3.21	106.16	O-XYLENE
9027	45209	0.46	120.19	N-PROPYLBENZENE
9027	45210	0.16	120.20	CUMENE (ISOPROPYL BENZENE)
9027	45220	0.08	104.14	STYRENE

NOTE: 'H' denotes a header record (contains weight percents of NO, NO2, and formaldehyde)

(continued)

TABLE C-1. (Continued)

Profile Number	SAROAD Code	Weight Percent	Molecular Weight	Species Name
9027	45221	0.02	118.19	METHYL STYRENE
9027	45238	1.80	120.19	ETHYLTOLUENE
9027	45243	0.62	122.21	ETHYLDIMETHYLBENZENE
9027	45244	0.51	134.22	TETRAMETHYLBENZENE
9027	45245	0.71	148.24	C5-ALKYLBENZENES
9027	45246	0.02	146.25	C5-ALKYLBENZENES (UNSAT.)
9027	45247	0.05	162.27	C6-ALKYLBENZENE
9027	45248	0.03	160.26	C4-ALKYLSTYRENES
9027	45249	0.00	176.30	C7-ALKYLBENZENE
9027	45501	0.00	106.13	BENZALDEHYDE
9027	45801	0.01	112.56	CHLOROBENZENE
9027	46115	0.00	160.00	DIMETHYLNAPHTHYRIDINE
9027	46701	0.40	123.11	NAPTHALENE
9027	46702	0.32	142.20	METHYL NAPHTHALENES
9027	46746	0.05	158.24	C2-ALKYLNAPTHALENE
9027	46747	0.26	132.21	METHYLINDANS
9027	46749	0.00	176.21	METHYLDIHYDRONAPHTHALENE
9027	46750	0.21	146.00	DIMETHYLINDANS
9027	46751	0.03	162.19	DIHYDRONAPTHALENE
9027	46752	0.00	144.00	DIMETHYLINDENE
9027	46754	0.02	318.89	ETHYLINDAN
9027	46755	0.03	333.92	TRIMETHYLINDAN
9027	90010	7.66	106.16	M-XYLENE AND P-XYLENE
9027	90021	1.32	58.12	METHYLPROPANE
9027	90022	0.07	56.10	METHYLPROPENE
9027	90023	0.03	70.13	METHYLBUTENE
9027	90024	0.00	68.12	METHYLBUTADIENE
9027	90025	0.44	84.16	METHYLPENTENES
9027	90026	0.88	86.17	METHYLPENTANE
9027	90027	0.02	80.14	METHYLCYCLOPENTADIENE
9027	90028	0.84	100.20	METHYLHEXANE
9027	90029	0.01	98.18	METHYLHEXENES
9027	90039	0.12	96.17	METHYLHEXADIENE
9027	90041	0.01	94.15	METHYLCYCLOHEXADIENE
9027	90043	0.46	146.36	METHYLHEXANAL
9027	90044	0.01	110.20	METHYLHEPTYNE
9027	90045	0.17	114.23	METHYLHEPTANE
9027	90046	0.07	96.17	METHYLCYCLOHEXENE
9027	90047	0.10	142.28	METHYLNONANE
9027	90048	0.06	156.32	METHYLDECANES
9027	90054	0.01	68.12	PENTENYNE
9027	90056	0.20	84.16	HEXENE
9027	90058	0.01	111.16	HEXADIENAL
9027	90059	0.01	125.19	HEPTADIENAL
9027	90060	1.14	87.18	DIMETHYLBUTANE
9027	90061	0.15	85.17	DIMETHYLBUTENE
9027	90062	0.18	101.21	DIMETHYLPENTANE
9027	90063	0.01	99.20	DIMETHYLPENTENE
9027	90064	0.07	99.19	DIMETHYLCYCLOPENTANE
9027	90065	0.15	97.18	DIMETHYLCYCLOPENTENES

NOTE: 'H' denotes a header record (contains weight percents of NO, NO2, and formaldehyde)

(continued)

TABLE C-1. (Continued)

	Profile Number	SAROAD Code	Weight Percent	Molecular Weight	Species Name
	9027	90067	0.38	114.23	DIMETHYLHEXANES
	9027	90068	0.05	111.20	DIMETHYLHEXADIENE
	9027	90069	0.04	140.26	DIMETHYLETHYLCYCLOHEXANE
	9027	90070	0.03	140.27	DIMETHYLOCTANES
	9027	90071	0.00	184.36	DIMETHYLUNDECANE
	9027	90074	0.03	225.43	DIMETHYLDECANE
	9027	90078	0.01	98.19	ETHYLPENTENE
	9027	90079	0.03	96.17	ETHYLCYCLOPENTENE
	9027	90080	0.06	112.21	ETHYLMETHYLCYCLOPENTANE
	9027	90081	0.12	114.23	ETHYLHEXANE
	9027	90082	0.10	128.26	ETHYLMETHYLHEXANE
	9027	90083	0.03	126.24	ETHYLMETHYLCYCLOHEXANES
	9027	90084	0.01	128.26	ETHYLHEPTANE
	9027	90085	0.01	156.31	ETHYLMETHYLOCTANE
	9027	90086	0.00	223.42	ETHYLBICYCLOHEPTANE
	9027	90087	0.06	128.26	ETHYLDIMETHYLPENTANE
	9027	90091	0.02	110.19	TETRAMETHYLCYCLOBUTENE
	9027	90092	0.34	114.22	TRIMETHYLPENTANE
	9027	90093	0.02	107.16	TRIMETHYLPENTADIENE
	9027	90094	0.07	142.29	TRIMETHYLHEPTANES
	9027	90095	0.02	126.24	TRIMETHYLHEXENE
	9027	90096	0.03	156.31	TRIMETHYLOCTANES
	9027	90097	0.01	182.35	TRIMETHYLDECANE
	9027	90099	0.00	108.19	OCTATRIENE
	9027	90100	0.01	127.05	NONENE
	9027	90103	0.02	68.13	PENTADIENE
	9027	90104	0.27	128.26	METHYLOCTANES
	9027	98044	0.22	118.18	INDANE
	9027	98058	0.04	112.16	TRIMETHYLCYCLOPENTANE
	9027	98059	0.05	112.12	DIMETHYLCYCLOHEXANE
	9027	98060	0.01	129.27	TRIMETHYLCYCLOHEXANES
	9027	98091	0.08	128.26	DIMETHYLHEPTANES
	9027	99999	0.00	86.00	UNIDENTIFIED
H	9028	95.00	5.00	0.00	
	9028	43111	1.47	170.32	ISOMERS OF DODECANE
	9028	43114	1.47	212.41	ISOMERS OF PENTADECANE
	9028	43224	1.47	70.13	1-PENTENE
	9028	43231	1.47	86.17	HEXANE
	9028	43232	1.47	100.20	HEPTANE
	9028	43238	1.47	142.28	N-DECANE
	9028	43243	1.47	68.12	ISOPRENE
	9028	43248	1.47	84.16	CYCLOHEXANE
	9028	43264	1.47	98.18	HEPTENE
	9028	43292	1.47	68.11	CYCLOPENTENE
	9028	43303	1.47	60.10	N-PROPYL ALCOHOL
	9028	43306	1.47	74.12	ISOBUTYL ALCOHOL
	9028	43308	1.47	118.17	BUTYL CELLOSOLVE
	9028	43309	1.47	74.12	TERT-BUTYL ALCOHOL
	9028	43310	1.47	76.11	METHYL CELLOSOLVE
	9028	43317	1.47	100.16	CYCLOHEXANOL

NOTE: 'H' denotes a header record (contains weight percents of NO, NO2, and formaldehyde)

(continued)

TABLE C-1. (Continued)

Profile Number	SAROAD Code	Weight Percent	Molecular Weight	Species Name
9028	43351	1.47	74.12	ETHYL ETHER
9028	43373	1.47	106.12	DIETHYLENE GLYCOL
9028	43374	1.47	134.18	DIPROPYLENE GLYCOL
9028	43376	1.47	88.15	METHYL T-BUTYL ETHER
9028	43377	1.47	134.18	CARBITOL
9028	43378	1.47	120.15	METHYL CARBITOL
9028	43379	1.47	162.23	BUTYL CARBITOL
9028	43403	1.47	46.03	FORMIC ACID
9028	43404	1.47	60.05	ACETIC ACID
9028	43405	1.47	74.08	PROPIONIC ACID
9028	43407	1.47	72.06	ACRYLIC ACID
9028	43409	1.47	146.14	ADIPIC ACID
9028	43432	1.47	74.08	METHYLACETATE
9028	43434	1.47	102.15	N-PROPYL ACETATE
9028	43437	1.47	86.09	METHYL ACRYLATE
9028	43438	1.47	100.11	ETHYL ACRYLATE
9028	43440	1.47	128.17	BUTYL ACRYLATE
9028	43451	1.47	144.21	ISOBUTYL ISOBUTYRATE
9028	43468	1.47	128.19	ISOBUTYL ACRYLATE
9028	43502	1.47	30.03	FORMALDEHYDE
9028	43503	1.47	44.05	ACETALDEHYDE
9028	43504	1.47	58.08	PROPIONALDEHYDE
9028	43505	1.47	56.07	ACROLEIN
9028	43510	1.47	72.12	BUTYRALDEHYDE
9028	43511	1.47	72.11	ISOBUTYRALDEHYDE
9028	43561	1.47	98.15	CYCLOHEXANONE
9028	43562	1.47	114.21	METHYL AMYL KETONE
9028	43602	1.47	58.08	PROPYLENE OXIDE
9028	43604	1.47	102.09	ACETIC ANHYDRIDE
9028	43704	1.47	53.06	ACRYLONITRILE
9028	43777	1.47	61.08	ETHANOLAMINE
9028	43778	1.47	43.07	ETHYLENEAMINES
9028	43803	1.47	119.39	CHLOROFORM
9028	43804	1.47	153.84	CARBON TETRACHLORIDE
9028	43837	1.47	187.88	ETHYLENE DIBROMIDE
9028	43863	1.47	92.53	EPICHLOROHYDRIN
9028	43902	1.47	62.13	ETHYL MERCAPTAN
9028	45203	1.47	106.16	ETHYLBENZENE
9028	45204	1.47	106.16	O-XYLENE
9028	45205	1.47	106.16	M-XYLENE
9028	45206	1.47	106.16	P-XYLENE
9028	45210	1.47	120.20	CUMENE (ISOPROPYL BENZENE)
9028	45221	1.47	118.19	METHYL STYRENE
9028	45236	1.47	162.28	DIISOPROPYL BENZENE
9028	45605	1.47	108.14	CRESOL
9028	45701	1.47	93.13	ANILINE
9028	45702	1.47	123.11	NITROBENZENE
9028	45731	1.47	174.17	TOLUENE DIISOCYANATE
9028	45750	1.47	68.12	PIPERYLENE
9028	45810	1.47	126.59	BENZYL CHLORIDE

NOTE: 'H' denotes a header record (contains weight percents of NO, NO2, and formaldehyde)

(continued)

TABLE C-1. (Continued)

	Profile Number	SAROAD Code	Weight Percent	Molecular Weight	Species Name
	9028	90001	1.47	168.32	DODECENE
	9028	90011	1.47	54.09	METHYLALLENE
H	9029	95.00	5.00	0.00	
	9029	43303	25.00	60.10	N-PROPYL ALCOHOL
	9029	43306	25.00	74.12	ISOBUTYL ALCOHOL
	9029	43309	25.00	74.12	TERT-BUTYL ALCOHOL
	9029	43317	25.00	100.16	CYCLOHEXANOL
H	9030	95.00	5.00	0.00	
	9030	43111	25.00	170.32	ISOMERS OF DODECANE
	9030	43114	25.00	212.41	ISOMERS OF PENTADECANE
	9030	43232	25.00	100.20	HEPTANE
	9030	43238	25.00	142.28	N-DECANE
H	9031	95.00	5.00	0.00	
	9031	43264	50.00	98.18	HEPTENE
	9031	90001	50.00	168.32	DODECENE
H	9032	95.00	5.00	0.00	
	9032	43777	33.33	61.08	ETHANOLAMINE
	9032	43778	33.33	43.07	ETHYLENEAMINES
	9032	45701	33.33	93.13	ANILINE
H	9033	95.00	5.00	0.00	
	9033	45203	12.50	106.16	ETHYLBENZENE
	9033	45204	12.50	106.16	O-XYLENE
	9033	45205	12.50	106.16	M-XYLENE
	9033	45206	12.50	106.16	P-XYLENE
	9033	45210	12.50	120.20	CUMENE (ISOPROPYL BENZENE)
	9033	45221	12.50	118.19	METHYL STYRENE
	9033	45236	12.50	162.28	DIISOPROPYL BENZENE
	9033	45605	12.50	108.14	CRESOL
H	9034	95.00	5.00	0.00	
	9034	43403	20.00	46.03	FORMIC ACID
	9034	43404	20.00	60.05	ACETIC ACID
	9034	43405	20.00	74.08	PROPIONIC ACID
	9034	43407	20.00	72.06	ACRYLIC ACID
	9034	43409	20.00	146.14	ADIPIC ACID
H	9035	95.00	5.00	0.00	
	9035	43432	14.29	74.08	METHYLACETATE
	9035	43434	14.29	102.15	N-PROPYL ACETATE
	9035	43437	14.29	86.09	METHYL ACRYLATE
	9035	43438	14.29	100.11	ETHYL ACRYLATE
	9035	43440	14.29	128.17	BUTYL ACRYLATE
	9035	43451	14.29	144.21	ISOBUTYL ISOBUTYRATE
	9035	43468	14.29	128.19	ISOBUTYL ACRYLATE
H	9036	95.00	5.00	0.00	
	9036	43308	16.67	118.17	BUTYL CELLOSOLVE
	9036	43310	16.67	76.11	METHYL CELLOSOLVE
	9036	43373	16.67	106.12	DIETHYLENE GLYCOL
	9036	43377	16.67	134.18	CARBITOL
	9036	43378	16.67	120.15	METHYL CARBITOL
	9036	43379	16.67	162.23	BUTYL CARBITOL
H	9037	95.00	5.00	0.00	

NOTE: 'H' denotes a header record (contains weight percents of NO, NO2, and formaldehyde)

(continued)

TABLE C-1. (Continued)

	Profile Number	SAROAD Code	Weight Percent	Molecular Weight	Species Name
	9037	43374	100.00	134.18	DIPROPYLENE GLYCOL
H	9038	95.00	5.00	0.00	
	9038	43804	25.00	153.84	CARBON TETRACHLORIDE
	9038	43837	25.00	187.88	ETHYLENE DIBROMIDE
	9038	43863	25.00	92.53	EPICHLOROHYDRIN
	9038	45810	25.00	126.59	BENZYL CHLORIDE
H	9039	95.00	5.00	0.00	
	9039	45731	100.00	174.17	TOLUENE DIISOCYANATE
H	9040	95.00	5.00	0.00	
	9040	43561	50.00	98.15	CYCLOHEXANONE
	9040	43562	50.00	114.21	METHYL AMYL KETONE
H	9041	95.00	5.00	0.00	
	9041	43502	25.00	30.03	FORMALDEHYDE
	9041	43504	25.00	58.08	PROPIONALDEHYDE
	9041	43510	25.00	72.12	BUTYRALDEHYDE
	9041	43511	25.00	72.11	ISOBUTYRALDEHYDE
H	9042	95.00	5.00	0.00	
	9042	43231	50.00	86.17	HEXANE
	9042	43248	50.00	84.16	CYCLOHEXANE
H	9043	95.00	5.00	0.00	
	9043	43351	50.00	74.12	ETHYL ETHER
	9043	43602	50.00	58.08	PROPYLENE OXIDE
H	9044	95.00	5.00	0.00	
	9044	43803	50.00	119.39	CHLOROFORM
	9044	43804	50.00	153.84	CARBON TETRACHLORIDE
H	9046	95.00	5.00	0.00	
	9046	43224	20.00	70.13	1-PENTENE
	9046	43243	20.00	68.12	ISOPRENE
	9046	43292	20.00	68.11	CYCLOPENTENE
	9046	45750	20.00	68.12	PIPERYLENE
	9046	90011	20.00	54.09	METHYLALLENE
H	9047	95.00	5.00	0.00	
	9047	43369	12.50	76.00	PROPYLENE GLYCOL
	9047	43370	12.50	62.07	ETHYLENE GLYCOL
	9047	43441	12.50	100.13	METHYL METHACRYLATE
	9047	45300	12.50	94.11	PHENOL
	9047	45503	12.50	96.09	2-FURFURAL
	9047	45801	12.50	112.56	CHLOROBENZENE
	9047	45805	12.50	147.01	O-DICHLOROBENZENE
	9047	46210	12.50	130.19	CREOSOTE

TABLE C-2. PSPLIT SPECIES CLASS FILE

Class Number	Class Name
1	METHANE
2	ETHANE
3	PROPANE
4	ALKANES .25-.5 REACT
5	ALKANES .5-1 REACT
6	ALKANES 1-2 REACT
7	ALKANES >2 REACT
8	ALKANE/ARO MIX
9	ETHENE
10	PROPENE
11	ALKENES PRIMARY
12	ALKENES INTERNAL
13	ALKENES MIX
14	BENZENE, HALOBENZENES
15	AROMATICS <2 REACT
16	AROMATICS >2 REACT
17	PHENOLS/CRESOLS
18	STYRENES
19	FORMALDEHYDE
20	HIGHER ALDEHYDES
21	ACETONE
22	HIGHER KETONES
23	ORGANIC ACIDS
24	ACETYLENE
25	HALOALKENES
26	UNREACTIVE
27	OTHERS <.25 REACT
28	OTHERS .25-.5 REACT
29	OTHERS .5-1 REACT
30	OTHERS >1 REACT
31	UNIDENTIFIED
32	UNASSIGNED

SAROAD Code	Class	Molecular Weight	Species
43105	5	86.17000	ISOMERS OF HEXANE
43106	6	100.20000	ISOMERS OF HEPTANE
43107	6	114.23000	ISOMERS OF OCTANE
43108	6	128.25000	ISOMERS OF NONANE
43109	6	142.28000	ISOMERS OF DECANE
43110	7	156.30000	ISOMERS OF UNDECANE
43111	7	170.32000	ISOMERS OF DODECANE
43112	7	184.36000	ISOMERS OF TRIDECANE
43113	7	198.38000	ISOMERS OF TETRADECANE
43114	7	212.41000	ISOMERS OF PENTADECANE
43115	6	98.19000	C-7 CYCLOPARAFFINS
43116	6	112.23000	C-8 CYCLOPARAFFINS

(continued)

TABLE C-2. (Continued)

SAROAD Code	Class	Molecular Weight	Species
43117	7	126.26000	C-9 CYCLOPARAFFINS
43118	8	114.00000	MINERAL SPIRITS
43119	8	114.00000	LACTOL SPIRITS
43120	13	56.10000	ISOMERS OF BUTENE
43121	13	70.13000	ISOMERS OF PENTENE
43122	5	72.15000	ISOMERS OF PENTANE
43123	13	136.23000	TERPENES
43124	13	127.05000	C9 OLEFINS
43125	13	140.27000	C10 OLEFINS
43126	6	112.22000	C2 CYCLOHEXANE
43127	7	126.24000	C3 CYCLOHEXANE
43128	32	154.30000	C5 CYCLOHEXANE
43129	7	142.28000	C4 SUBSTITUTED CYCLOHEXAN
43130	7	154.30000	C5 SUBSTITUTED CYCLOHEXAN
43131	7	170.32000	C6 SUBSTITUTED CYCLOHEXAN
43132	32	100.00000	ALIPHATICS
43133	7	352.43000	PARAFFINS (C16-C34)
43134	32	197.38000	PARAFFINS/OLEFINS (C12-C1
43135	6	142.28000	C10 PARAFFIN
43136	6	128.25000	C9 PARAFFIN
43137	7	226.45000	C16 BRANCHED ALKANE
43138	13	112.23000	C-8 OLEFINS
43140	32	163.32000	C7-C16
43141	6	114.23000	C8 PARAFFIN
43142	6	100.20000	C7 PARAFFIN
43143	13	70.13000	C5 OLEFIN
43144	5	72.15000	C5 PARAFFIN
43145	32	70.13000	C5 PARAFFIN/OLEFIN
43146	13	154.29000	C11 OLEFIN
43147	13	168.32000	C12 OLEFIN
43148	32	124.23000	ISOMERS OF C9H16
43149	32	110.20000	C8H14
43150	6	138.25000	ISOMERS OF C10H18
43151	32	152.28000	ISOMERS OF C11H20
43152	32	166.31000	C12H22
43153	32	136.24000	C10H16
43155	7	240.47000	ISOMERS OF HEPTADECANE
43156	7	254.50000	ISOMERS OF OCTADECANE
43201	1	16.04000	METHANE
43202	2	30.07000	ETHANE
43203	9	28.05000	ETHYLENE
43204	3	44.09000	PROPANE
43205	10	42.08000	PROPENE
43206	24	26.04000	ACETYLENE
43208	30	40.06000	PROPADIENE
43209	29	40.06000	METHYLACETYLENE (PROPYNE)
43211	11	84.16000	3-METHYL-1-PENTENE
43212	4	58.12000	N-BUTANE
43213	11	56.10000	BUTENE
43214	4	58.12000	ISO-BUTANE

(continued)

TABLE C-2. (Continued)

SAROAD Code	Class	Molecular Weight	Species
43215	11	56.10000	ISOBUTYLENE
43216	12	56.11000	T-2-BUTENE
43217	12	56.11000	CIS-2-BUTENE
43218	12	54.09000	1,3-BUTADIENE
43220	5	72.15000	N-PENTANE
43221	5	72.15000	ISO PENTANE
43222	3	72.17000	2,2, DIMETHYLPROPANE
43223	11	70.13000	3-METHYL-1-BUTENE
43224	11	70.13000	1-PENTENE
43225	11	70.13000	2-METHYL-1-BUTENE
43226	12	70.13000	TRANS-2-PENTENE
43227	12	70.13000	CIS-2-PENTENE
43228	12	70.13000	2-METHYL-2-BUTENE
43229	5	86.17000	2-METHYLPENTANE
43230	5	86.17000	3-METHYL PENTANE
43231	5	86.17000	HEXANE
43232	6	100.20000	HEPTANE
43233	6	114.23000	OCTANE
43234	11	84.16000	2,3, DIMETHYL-1-BUTENE
43235	6	128.25000	NONANE
43238	6	142.28000	N-DECANE
43241	6	156.31000	N-UNDECANE
43242	5	70.14000	CYCLOPENTANE
43243	12	68.12000	ISOPRENE
43245	11	84.16000	1-HEXENE
43247	6	100.20000	2,4-DIMETHYLPENTANE
43248	6	84.16000	CYCLOHEXANE
43250	5	114.22000	2,2,4-TRIMETHYLPENTANE
43252	6	114.22000	2,3,4-TRIMETHYLPENTANE
43254	5	114.23000	ISOOCTANE
43255	7	170.33000	N-DODECANE
43256	12	136.24000	A-PINENE
43257	12	136.24000	B-PINENE
43258	7	184.36000	N-TRIDECANE
43259	7	198.38000	N-TETRADECANE
43260	7	212.41000	N-PENTADECANE
43261	6	98.21000	METHYLCYCLOHEXANE
43262	6	84.16000	METHYLCYCLOPENTANE
43263	6	100.20000	2-METHYL HEXANE
43264	13	98.18000	HEPTENE
43265	11	112.21000	OCTENE
43269	11	127.05000	1-NONENE
43270	12	84.16000	3-METHYL-T-2-PENTENE
43271	32	128.26000	3,5,5-TRIMETHYLHEXANE
43272	12	82.14000	METHYLCYCLOPENTENE
43273	12	82.14000	CYCLOHEXENE
43274	6	100.20000	2,3 DIMETHYL PENTANE
43276	5	86.17000	2,3 DIMETHYLBUTANE
43277	6	114.22000	2,4-DIMETHYLHEXANE
43278	6	114.22000	2,5-DIMETHYLHEXANE

(continued)

TABLE C-2. (Continued)

SAROAD Code	Class	Molecular Weight	Species
43279	11	84.16000	2-ETHYL-1-BUTENE
43280	6	114.22000	2,3,3 TRIMETHYLPENTANE
43281	30	54.09000	1-BUTYNE
43282	30	54.09000	2-BUTYNE
43283	12	84.16000	C-3-HEXENE
43284	12	84.16000	2-METHYL-2-PENTENE
43285	12	84.16000	2-HEXENE
43286	13	112.20000	DIMETHYLHEXENE
43287	6	114.22000	2,2 DIMETHYLHEXANE
43288	6	112.23000	ETHYLCYCLOHEXANE
43289	13	84.16000	C6 OLEFINS
43290	6	114.22000	2,3, DIMETHYLHEXANE
43291	4	86.17000	2,2-DIMETHYLBUTANE
43292	12	68.11000	CYCLOPENTENE
43293	12	84.18000	4-METHYL-T-2-PENTENE
43294	13	98.18000	C7 OLEFINS
43295	6	100.20000	3-METHYLHEXANE
43296	6	114.23000	2-METHYLHEPTANE
43297	6	114.23000	4-METHYLHEPTANE
43298	6	114.23000	3-METHYLHEPTANE
43299	12	96.17000	1-METHYLCYCLOHEXENE
43301	27	32.04000	METHYL ALCOHOL
43302	28	46.07000	ETHYL ALCOHOL
43303	29	60.10000	N-PROPYL ALCOHOL
43304	29	60.09000	ISO-PROPYL ALCOHOL
43305	29	74.12000	N-BUTYL ALCOHOL
43306	30	74.12000	ISOBUTYL ALCOHOL
43308	30	118.17000	BUTYL CELLOSOLVE
43309	27	74.12000	TERT-BUTYL ALCOHOL
43310	30	76.11000	METHYL CELLOSOLVE
43311	30	90.12000	CELLOSOLVE
43312	32	162.18000	2-(2-BUTOXYETHOXY)-ETHANO
43313	32	104.15000	1-ETHOXY-2-PROPANOL
43314	30	74.12000	S-BUTYL ALCOHOL
43317	30	100.16000	CYCLOHEXANOL
43318	32	130.23000	2-ETHYL HEXANOL
43320	32	130.14000	DIACETONE ALCOHOL
43322	11	90.12000	1,4 BUTANEDIOL
43330	32	88.15000	ISOAMYL ALCOHOL
43331	30	117.21000	DIMETHYLPENTANOL
43332	32	159.29000	DIMETHYLOCTANOL
43333	32	145.26000	DIMETHYLHEPTANOL
43334	32	131.24000	METHYLHEPTANOL
43335	32	120.00000	METHOXYETHOXYETHANOL
43336	32	130.26000	OCTANOL
43337	30	162.23000	BUTOXYETHOXYETHANOL
43350	28	46.07000	DIMETHYLETHER
43351	30	74.12000	ETHYL ETHER
43367	30	78.07000	GLYCOL ETHER
43368	30	62.07000	GLYCOL

(continued)

TABLE C-2. (Continued)

SAROAD Code	Class	Molecular Weight	Species
43369	30	76.00000	PROPYLENE GLYCOL
43370	30	62.07000	ETHYLENE GLYCOL
43371	30	118.18000	HEXYLENE GLYCOL
43372	32	130.23000	DIBUTYL ETHER
43373	32	106.12000	DIETHYLENE GLYCOL
43374	32	134.18000	DIPROPYLENE GLYCOL
43376	32	88.15000	METHYL T-BUTYL ETHER
43377	30	134.18000	CARBITOL
43378	30	120.15000	METHYL CARBITOL
43379	30	162.23000	BUTYL CARBITOL
43391	32	128.19000	2-BUTYLTETRAHYDROFURAN
43395	32	112.17000	C7H12O
43397	32	142.24000	TRIMETHYLCYCLOHEXANOL
43403	23	46.03000	FORMIC ACID
43404	23	60.05000	ACETIC ACID
43405	23	74.08000	PROPIONIC ACID
43407	23	72.06000	ACRYLIC ACID
43408	23	256.43000	PALMITIC ACID
43409	23	146.14000	ADIPIC ACID
43410	23	256.43000	HEXADECANOIC ACID
43430	32	60.05000	METHYL FORMATE
43432	27	74.08000	METHYLACETATE
43433	27	88.10000	ETHYL ACETATE
43434	29	102.15000	N-PROPYL ACETATE
43435	29	116.16000	N-BUTYL ACETATE
43437	32	86.09000	METHYL ACRYLATE
43438	11	100.11000	ETHYL ACRYLATE
43440	11	128.17000	BUTYL ACRYLATE
43441	11	100.13000	METHYL METHACRYLATE
43444	28	102.13000	ISOPROPYL ACETATE
43450	32	73.09000	DIMETHYL FORMAMIDE
43451	29	144.21000	ISOBUTYL ISOBUTRYATE
43452	30	132.16000	CELLOSOLVE ACETATE
43453	32	86.09000	VINYL ACETATE
43454	32	270.46000	METHYL PALMITATE
43455	32	242.41000	METHYL MYRISTATE
43456	32	298.52000	METHYL STEARATE
43457	32	60.10000	METHYLAL
43458	32	200.32000	SUBSTITUTED C9 ESTER (C12
43459	29	102.13000	C5 ESTER
43460	30	214.35000	METHYL C11 ESTER
43461	30	228.37000	METHYL C12 ESTER
43462	30	242.40000	METHYL C13 ESTER
43463	30	256.43000	METHYL C14 ESTER
43464	32	270.45000	METHYL C15 ESTER
43465	30	326.56000	METHYL C19 ESTER
43466	30	340.59000	METHYL C20 ESTER
43467	7	154.26000	C4 SUBSTITUTED CYCLOHEXAN
43468	32	128.19000	ISOBUTYL ACRYLATE
43469	30	220.26000	BUTOXYETHOXYETHANOL ACETA

(continued)

TABLE C-2. (Continued)

SAROAD Code	Class	Molecular Weight	Species
43470	32	214.35000	METHYL DODECANOATE
43472	32	128.21000	DIMETHYLPENTANEDIOATE
43473	32	144.24000	ETHYLHEXANOATE
43474	32	84.12000	METHYLMETHYLPROPENOATE
43475	32	144.22000	METHYLETHYLPENTANEOATE
43476	32	174.20000	DIMETHYLHEXANEDIOATE
43477	32	160.17000	DIMETHYLPENTANEDIOATE
43502	19	30.03000	FORMALDEHYDE
43503	20	44.05000	ACETALDEHYDE
43504	20	58.08000	PROPIONALDEHYDE
43505	20	56.07000	ACROLEIN
43510	20	72.12000	BUTYRALDEHYDE
43511	20	72.11000	ISOBUTYRALDEHYDE
43512	20	100.16000	HEXANAL
43513	20	58.04000	GLYOXAL
43514	20	72.07000	METHYL GLYOXAL
43515	20	70.09000	CROTONALDEHYDE
43520	20	67.11000	TOTAL C2-C5 ALDEHYDES
43551	21	58.08000	ACETONE
43552	22	72.10000	METHYL ETHYL KETONE
43560	22	100.16000	METHYL ISOBUTYL KETONE
43561	22	98.15000	CYCLOHEXANONE
43562	22	114.21000	METHYL AMYL KETONE
43563	22	114.19000	2-METHYL-3-HEXANONE
43565	22	98.14000	DIMETHYLCYCLOBUTANONE
43566	32	125.11000	TRIMETHYLCYCLOPENTANONE
43567	22	142.24000	TETRAMETHYLPENTANONE
43568	13	138.25000	NONENONE
43570	32	72.10000	ALKENE KETONE
43601	27	44.05000	ETHYLENE OXIDE
43602	27	58.08000	PROPYLENE OXIDE
43603	32	98.06000	MALEIC ANHYDRIDE
43604	32	102.09000	ACETIC ANHYDRIDE
43650	32	86.00000	OXYGENATES
43704	29	53.06000	ACRYLONITRILE
43721	30	45.09000	ETHYLAMINE
43740	30	59.11000	TRIMETHYLAMINE
43776	32	116.20000	HEXAMETHYLENEDIAMINE
43777	32	61.08000	ETHANOLAMINE
43778	32	43.07000	ETHYLENEAMINES
43780	32	59.11000	DIMETHYL ALKYL AMINES
43801	26	50.49000	METHYL CHLORIDE
43802	26	84.94000	DICHLOROMETHANE
43803	26	119.39000	CHLOROFORM
43804	26	153.84000	CARBON TETRACHLORIDE
43805	26	173.85000	METHYLENE BROMIDE
43811	26	137.38000	TRICHLOROFLUOROMETHANE
43812	26	64.52000	ETHYL CHLORIDE
43814	26	133.42000	1,1,1-TRICHLOROETHANE
43815	25	99.00000	ETHYLENE DICHLORIDE

(continued)

TABLE C-2. (Continued)

SAROAD Code	Class	Molecular Weight	Species
43817	25	165.83000	PERCHLOROETHYLENE
43820	26	133.42000	1,1,2-TRICHLOROETHANE
43821	26	187.38000	TRICHLOROTRIFLUOROETHANE
43822	32	92.00000	TRIMETHYLFLUOROSILANE
43823	26	120.91000	DICHLORODIFLUOROMETHANE
43824	25	131.40000	TRICHLOROETHYLENE
43835	32	92.57000	1-CHLOROBUTANE
43836	32	148.68000	3-(CHLOROMETHYL)-HEPTANE
43837	32	187.88000	ETHYLENE DIBROMIDE
43838	32	112.99000	PROPYLENE DICHLORIDE
43839	26	88.01000	TETRAFLUOROMETHANE
43840	26	86.47000	CHLORODIFLUOROMETHANE
43841	26	170.92000	DICHLOROTETRAFLUORETHANE
43842	26	154.47000	CHLOROPENTAFLUOROETHANE
43843	26	138.01000	HEXAFLUOROETHANE
43844	26	70.01000	TRIFLUOROMETHANE
43845	26	104.46000	CHLOROTRIFLUOROMETHANE
43860	29	62.50000	VINYL CHLORIDE
43862	32	88.54000	CHLOROPRENE
43863	32	92.53000	EPICHLOROHYDRIN
43902	32	62.13000	ETHYL MERCAPTAN
43933	26	60.08000	CARBONYL SULFIDE
43934	26	44.07000	CARBON SULFIDE
43950	32	296.62000	OCTAMETHYLCYCLOTETRASILOX
43951	32	244.25000	SILOXANE
45101	8	114.00000	NAPHTHA
45102	16	106.16000	ISOMERS OF XYLENE
45104	16	120.19000	ISOMERS OF ETHYLTOLUENE
45105	16	134.22000	ISOMERS OF BUTYLBENZENE
45106	16	134.21000	ISOMERS OF DIETHYLBENZENE
45107	16	120.19000	TRIMETHYLBENZENE
45108	15	120.19000	ISOMERS OF PROPYLBENZENE
45109	32	134.21000	C3/C4/C5 ALKYLBENZENES
45110	16	134.22000	C10 AROMATIC
45111	32	132.22000	C10H12
45112	32	130.19000	C10H10
45113	32	142.20000	C11H10
45201	14	78.11000	BENZENE
45202	15	92.13000	TOLUENE
45203	15	106.16000	ETHYLBENZENE
45204	16	106.16000	O-XYLENE
45205	16	106.16000	M-XYLENE
45206	16	106.16000	P-XYLENE
45207	16	120.19000	1,3,5-TRIMETHYLBENZENE
45208	16	120.19000	1,2,4-TRIMETHYLBENZENE
45209	15	120.19000	N-PROPYLBENZENE
45210	15	120.20000	CUMENE (ISOPROPYL BENZENE
45211	16	120.19000	O-ETHYLTOLUENE
45212	16	120.19000	M-ETHYLTOLUENE
45215	15	134.21000	TERT-BUTYLBENZENE

(continued)

TABLE C-2. (Continued)

SAROAD Code	Class	Molecular Weight	Species
45216	15	134.21000	S-BUTYLBENZENE
45217	16	134.22000	1,2 DIETHYLBENZENE
45218	16	134.22000	M-DIETHYLBENZENE
45220	18	104.14000	STYRENE
45221	18	118.19000	METHYL STYRENE
45225	16	120.19000	1,2,3-TRIMETHYLBENZENE
45226	32	154.21000	BIPHENYL
45227	32	168.24000	METHYL BIPHENYL
45228	18	132.21000	ETHYL STYRENE
45229	32	130.02000	DIVINYL BENZENE
45230	32	238.37000	DI(ETHYLPHENYL) ETHANE
45231	15	148.25000	PENTYL BENZENE
45232	32	182.27000	DIPHENYL ETHANE
45233	32	210.32000	ETHYL-PHENYL-PHENYL-ETHAN
45235	15	134.21000	BUTYL BENZENE
45236	16	162.28000	DIISOPROPYL BENZENE
45238	16	120.19000	ETHYLTOLUENE
45241	32	131.20000	4-PHENYL-1-BUTENE
45242	32	131.20000	T-1-PHENYLBUTENE
45243	16	134.22000	ETHYLDIMETHYLBENZENE
45244	16	134.22000	TETRAMETHYLBENZENE
45245	15	148.24000	C5-ALKYLBENZENE
45246	32	146.25000	C5-ALKYLBENZENE (UNSAT.)
45247	15	162.27000	C6-ALKYLBENZENE
45248	18	160.26000	C4-ALKYLSTYRENE
45249	15	176.30000	C7-ALKYLBENZENE
45300	17	94.11000	PHENOL
45303	17	150.22000	C4-ALKYLPHENOL
45304	17	164.25000	C5-ALKYLPHENOL
45310	17	122.16000	C8 PHENOLS
45311	17	136.19000	C9 PHENOLS
45320	32	136.19000	DIMETHYLBENZYLALCOHOL
45330	17	170.00000	BIPHENYLOL
45401	23	136.15000	XYLENE BASE ACIDS
45402	23	122.13000	BENZOIC ACID
45403	23	166.14000	TEREPHTHALIC ACID
45404	23	179.22000	DIMETHYLETHYLBENZOICACID
45450	32	194.19000	DIMETHYL TEREPHTHALATE
45451	16	194.19000	DIMETHYL PHTHALATE
45452	16	278.35000	DIBUTYL PHTHALATE
45454	32	250.30000	DIPROPYL PHTHALATE
45455	15	178.23000	BUTYL BENZOATE
45456	16	264.32000	BUTYLISOPROPYLPHTHALATE
45470	32	390.56000	DI-C8 ALKYL PHTHALATE
45477	32	312.36000	BUTYLBENZYLPHTHALATE
45501	20	106.13000	BENZALDEHYDE
45502	20	120.16000	P-TOLUALDEHYDE
45503	20	96.09000	2-FURFURAL
45601	16	148.00000	PHTHALIC ANHYDRIDE
45604	32	98.10000	FURFURYL ALCOHOL

(continued)

TABLE C-2. (Continued)

SAROAD Code	Class	Molecular Weight	Species
45605	17	108.14000	CRESOL
45701	32	93.13000	ANILINE
45702	32	123.11000	NITROBENZENE
45703	32	207.02000	2,2 DICHLORONITROANILINE
45704	32	262.03000	BROMODINITROANALINE
45705	32	247.02000	BROMODINITROBENZENE
45706	32	169.24000	N-PHENYLANILINE
45730	32	133.15000	METHYLENE(B)4-PHENYLISOCYANATE
45731	32	174.17000	TOLUENE DIISOCYANATE
45740	32	93.13000	TOTAL AROMATIC AMINES
45750	32	68.12000	PIPERYLENE
45801	14	112.56000	CHLOROBENZENE
45805	14	147.01000	O-DICHLOROBENZENE
45806	32	147.01000	M-DICHLOROBENZENE
45807	14	147.01000	P-DICHLOROBENZENE
45808	14	147.01000	DICHLOROBENZENES
45810	14	126.59000	BENZYL CHLORIDE
45830	14	181.45000	TRICHLOROBENZENES
45831	32	215.90000	TETRACHLOROBENZENES
46102	32	208.23000	ANTHRAQUINONE
46103	32	223.23000	AMINOANTHRAQUINONE
46111	32	198.17000	4,4’-METHYLENE DIANILINE
46112	32	119.13000	PHENYL ISOCYANATE
46114	32	107.17000	4-METHYLANILINE
46115	32	160.00000	DIMETHYLNAPHTHYRIDINE
46202	32	124.23000	OCTAHYDROINDENE
46204	32	160.00000	DIHYDROXYNAPHTHALENEDIONE
46210	17	153.20000	CREOSOTE
46601	32	132.25000	TETRAMETHYLTHIOUREA
46602	32	135.19000	BENZOTHIAZOLE
46701	16	123.11000	NAPTHALENE
46702	16	142.20000	METHYL NAPHTHALENES
46703	16	156.23000	DIMETHYL NAPTHALENE
46705	32	152.20000	ACENAPHTHYLENE
46706	32	154.21000	ACENAPHTHENE
46707	32	166.22000	FLUORENE
46708	32	178.23000	PHENANTHRENE
46709	16	178.23000	ANTHRACENE
46710	32	202.26000	FLUORANTHENE
46711	16	146.23000	C2 ALKYL INDAN
46712	32	116.16000	INDENE
46713	32	202.26000	PYRENE
46714	32	252.32000	BENZO(G,H,I) FLUORANTHENE
46715	32	228.29000	CHRYSENE
46716	16	228.30000	BENZO (A) ANTHRACENE
46717	32	252.32000	BENZO (B) FLUORANTHENE
46719	16	252.32000	BENZO (A) PYRENE
46746	16	158.24000	C2-ALKYLNAPTHALENE
46747	16	132.21000	METHYLINDAN
46748	7	152.28000	METHYLDECALIN

(continued)

TABLE C-2. (Continued)

SAROAD Code	Class	Molecular Weight	Species
46749	32	144.22000	METHYLDIHYDRONAPHTHALENE
46750	16	146.00000	DIMETHYLINDAN
46751	32	130.19000	DIHYDRONAPTHALENE
46752	32	144.00000	DIMETHYLINDENE
46753	7	138.25000	DECALIN
46754	16	146.23000	ETHYLINDAN
46755	16	160.26000	TRIMETHYLINDAN
90001	13	168.32000	DODECENE
90002	6	128.25000	2,3,5-TRIMETHYLHEXANE
90003	6	128.26000	2,4 DIMETHYLHEPTANE
90004	6	128.26000	3,5 DIMETHYLHEPTANE
90005	6	128.26000	2,5 DIMETHYLHEPTANE
90006	6	128.26000	2,3 DIMETHYLHEPTANE
90007	11	84.16000	4-METHYL-1-PENTENE
90008	6	128.26000	2-METHYLOCTANE
90009	6	142.29000	2,4,5-TRIMETHYLHEPTANE
90010	16	106.16000	M-XYLENE AND P-XYLENE
90011	32	54.09000	METHYLALLENE
90013	12	112.21000	C-2-OCTENE
90014	11	140.22000	1-DECENE
90015	6	128.26000	3-METHYLOCTANE
90016	6	128.26000	4-METHYLOCTANE
90017	7	126.24000	METHYLCYCLOOCTANE
90019	32	222.47000	C6H18O3SI3
90020	32	296.60000	C8H24O4SI4
90021	4	58.12000	METHYLPROPANE
90022	11	56.10000	METHYLPROPENE
90023	13	70.13000	METHYLBUTENE
90024	12	68.12000	METHYLBUTADIENE
90025	13	84.16000	METHYLPENTENE
90026	5	86.17000	METHYLPENTANE
90027	12	80.14000	METHYLCYCLOPENTADIENE
90028	6	100.20000	METHYLHEXANE
90029	13	98.18000	METHYLHEXENE
90030	7	226.45000	HEXADECANE
90031	7	240.46000	N-HEPTADECANE
90032	11	154.30000	1-UNDECENE
90033	7	138.25000	CYCLOPENTYLCYCLOPENTANE
90034	12	126.24000	T-2-NONENE
90036	30	68.12000	PENTYNE
90037	32	82.15000	HEXYNE
90038	32	112.22000	CIS-1,4 DIMETHYLCYCLOHEXA
90039	12	96.17000	METHYLHEXADIENE
90041	12	94.15000	METHYLCYCLOHEXADIENE
90042	12	84.16000	T-3-HEXENE
90043	20	114.19000	METHYLHEXANAL
90044	32	110.20000	METHYLHEPTYNE
90045	6	114.23000	METHYLHEPTANE
90046	12	96.17000	METHYLCYCLOHEXENE
90047	6	142.28000	METHYLNONANE

(continued)

TABLE C-2. (Continued)

SAROAD Code	Class	Molecular Weight	Species
90048	7	156.32000	METHYLDECANE
90049	7	170.34000	METHYLUNDECANE
90050	32	136.24000	CAMPHENE
90051	32	136.24000	MYRCENE
90052	32	136.24000	B-PHELLANDRENE
90053	12	136.24000	D-LIMONENE
90054	32	68.12000	PENTENYNE
90055	7	154.29000	PENTYLCYCLOHEXANE
90056	13	84.16000	HEXENE
90058	32	96.13000	HEXADIENAL
90059	32	110.16000	HEPTADIENAL
90060	5	87.18000	DIMETHYLBUTANE
90061	13	85.17000	DIMETHYLBUTENE
90062	6	101.21000	DIMETHYLPENTANE
90063	32	99.20000	DIMETHYLPENTENE
90064	6	99.19000	DIMETHYLCYCLOPENTANE
90065	12	97.18000	DIMETHYLCYCLOPENTENE
90066	12	124.23000	NONADIENE
90067	6	114.23000	DIMETHYLHEXANE
90068	12	100.20000	DIMETHYLHEXADIENE
90069	6	140.26000	DIMETHYLETHYLCYCLOHEXANE
90070	6	140.27000	DIMETHYLOCTANE
90071	32	184.36000	DIMETHYLUNDECANE
90072	7	140.27000	METHYLPROPYLCYCLOHEXANE
90073	32	140.27000	METHYLISOPROPYLCYCLOHEXAN
90074	7	170.34000	DIMETHYLDECANE
90075	13	140.27000	ETHYLOCTENE
90076	7	156.31000	DIMETHYLNONANE
90077	6	142.29000	ETHYLOCTANE
90078	13	98.19000	ETHYLPENTENE
90079	12	96.17000	ETHYLCYCLOPENTENE
90080	7	112.21000	ETHYLMETHYLCYCLOPENTANE
90081	6	114.23000	ETHYLHEXANE
90082	6	128.26000	ETHYLMETHYLHEXANE
90083	7	126.24000	ETHYLMETHYLCYCLOHEXANE
90084	32	128.26000	ETHYLHEPTANE
90085	7	156.31000	ETHYLMETHYLOCTANE
90086	7	124.23000	ETHYLBICYCLOHEPTANE
90087	6	128.26000	ETHYLDIMETHYLPENTANE
90089	32	141.27000	ETHYLDIMETHYLCYCLOHEXANE
90090	7	154.29000	ETHYLPROPYLCYCLOHEXANE
90091	12	110.19000	TETRAMETHYLCYCLOBUTENE
90092	6	114.22000	TRIMETHYLPENTANE
90093	12	107.16000	TRIMETHYLPENTADIENE
90094	6	142.29000	TRIMETHYLHEPTANE
90095	13	126.24000	TRIMETHYLHEXENE
90096	7	156.31000	TRIMETHYLOCTANE
90097	7	182.35000	TRIMETHYLDECANE
90098	7	126.24000	TETRAMETHYLCYCLOPENTANE
90099	12	108.19000	OCTATRIENE

(continued)

TABLE C-2. (Continued)

SAROAD Code	Class	Molecular Weight	Species
90100	13	127.05000	NONENE
90101	7	140.27000	BUTYLCYCLOHEXANE
90102	7	183.35000	METHYLPROPYLNONANE
90103	12	68.13000	PENTADIENE
90104	6	128.26000	METHYLOCTANE
90105	32	124.23000	PROPENYLCYCLOHEXANE
90106	13	140.26000	METHYLNONENE
90107	13	154.29000	METHYLDECENE
90108	32	184.36000	METHYLDODECANE
90109	13	141.28000	PROPYLHEPTENE
90110	7	111.20000	DIETHYLMETHYLCYCLOHEXANE
90111	7	140.27000	ISOPROPYLMETHYLCYCLOHANE
90112	32	138.25000	DIMETHYLOCTYNE
90113	32	268.44000	PENTYLIDENECYCLOHEXANE
90114	32	168.32000	DIMETHYLBUTYLCYCLOHEXANE
90115	6	128.26000	TRIMETHYLHEXANE
90117	12	136.24000	LIMONENE
90118	32	225.20000	OCTAHYDROPENTALENE
90120	6	126.24000	PROPYLCYCLOHEXANE
90122	32	145.31000	TETRAMETHYLHEXANE
90125	32	296.59000	HENEICOSANE
90126	32	282.56000	EICOSANE
90127	7	268.53000	NONADECANE
90128	7	126.25000	ISOPROPYLCYCLOHEXANE
90130	32	204.41000	CARYOPHYLLENE
98033	6	128.26000	2,2,5-TRIMETHYLHEXANE
98034	12	84.16000	T-2-HEXENE
98035	12	84.16000	C-2-HEXENE
98040	11	84.16000	2-METHYL-1-PENTENE
98041	12	98.19000	3-HEPTENE
98044	16	118.18000	INDANE
98054	11	112.22000	2,4,4-TRIMETHYL-1-PENTENE
98056	20	86.14000	ISOVALERALDEHYDE
98057	6	98.19000	ETHYLCYCLOPENTANE
98058	6	112.16000	TRIMETHYLCYCLOPENTANE
98059	6	112.12000	DIMETHYLCYCLOHEXANE
98060	7	129.27000	TRIMETHYLCYCLOHEXANE
98062	7	140.27000	DIETHYLCYCLOHEXANE
98063	7	154.30000	N-PENTYLCYCLOHEXANE
98082	11	127.05000	ETHYLHEPTENE
98083	12	182.35000	TRIMETHYLDECENE
98090	11	112.22000	METHYLHEPTENE
98091	6	128.26000	DIMETHYLHEPTANE
98106	30	88.15000	ETHYLISOPROPYL ETHER
99908	32	142.28000	2,3 DIMETHYLOCTANE
99909	6	142.28000	2,6 DIMETHYLOCTANE
99910	6	142.29000	2,4 DIMETHYLOCTANE
99911	6	142.29000	3,4 DIMETHYLOCTANE
99912	16	119.19000	1-METHYL-3-ETHYLBENZENE
99913	16	119.19000	1-METHYL-2-ETHYLBENZENE

(continued)

TABLE C-2. (Continued)

SAROAD Code	Class	Molecular Weight	Species
99915	15	134.22000	ISOBUTYLBENZENE
99916	16	134.22000	1-METHYL-3N-PROPYLBENZENE
99917	16	134.22000	1-METHYL-3-ISOPROPYLBENZE
99918	7	156.32000	2-METHYLDECANE
99933	32	74.12000	DENATURANT
99999	31	86.00000	UNIDENTIFIED

TABLE C-3. U.S. AND CANADIAN POINT SOURCE SCC-PROFILE ASSIGNMENT FILE

SOURCE CATEGORY	PROFILE ID	SOURCE CATEGORY	PROFILE ID	SOURCE CATEGORY	PROFILE ID	SOURCE CATEGORY	PROFILE ID
10100101	1178	10200229	1185	10300226	1178	20300102	1098
10100102	1178	10200301	1185	10300305	1178	20300201	1001
10100201	1178	10200302	1185	10300306	1178	20300202	1001
10100202	1178	10200303	1185	10300307	1178	20300301	1101
10100203	1178	10200304	1185	10300309	1178	20301001	1001
10100204	1178	10200306	1185	10300401	1	20301002	1001
10100205	1178	10200307	1185	10300402	1	20400101	1098
10100212	1178	10200401	1	10300403	1	20400102	1098
10100217	1178	10200402	1	10300404	1	20400201	9002
10100221	1178	10200403	1	10300501	2	20400301	7
10100222	1178	10200404	1	10300502	2	20400302	1001
10100223	1178	10200405	1	10300503	2	20400401	1101
10100224	1178	10200501	2	10300504	2	20400402	8
10100225	1178	10200502	2	10300601	3	28888801	9002
10100226	1178	10200503	2	10300602	3	28888802	9002
10100301	1178	10200504	2	10300603	3	28888803	9002
10100302	1178	10200505	2	10300701	4	30100101	1110
10100303	1178	10200601	3	10300799	4	30100102	1110
10100304	1178	10200602	3	10300901	1084	30100103	299
10100306	1178	10200603	3	10300902	1084	30100104	0
10100401	1	10200604	3	10300903	1084	30100105	1110
10100404	1	10200701	4	10301001	3	30100106	0
10100405	1	10200704	4	10301002	3	30100107	1110
10100406	1	10200707	5	10301201	122	30100108	0
10100501	2	10200710	4	10301301	122	30100109	0
10100504	2	10200799	4	10301302	1	30100180	1110
10100505	2	10200802	5	10301303	122	30100199	1110
10100601	3	10200804	5	10500102	1178	30100305	9004
10100602	3	10200901	1084	10500105	2	30100306	3
10100604	3	10200902	1084	10500106	3	30100307	1
10100701	4	10200903	1084	10500110	3	30100308	9004
10100702	4	10200904	1084	10500202	1178	30100309	9004
10100801	5	10200905	1084	10500205	2	30100399	9004
10100901	1084	10200906	1084	10500206	3	30100501	1002
10100902	1084	10200907	1084	10500209	1084	30100502	0
10100903	1084	10201001	3	10500210	3	30100503	1002
10101001	3	10201002	3	20100101	1098	30100504	1002
10101002	3	10201101	1084	20100102	9	30100506	0
10101101	3	10201201	122	20100201	7	30100507	3
10101201	122	10201301	122	20100202	1001	30100508	0
10101301	122	10201302	1	20100702	1001	30100509	0
10101302	1	10201401	3	20100901	1098	30100599	1002
10200101	1185	10201402	4	20100902	1098	30100601	307
10200104	1185	10201403	2	20101001	0	30100603	307
10200107	1185	10201404	1	20200101	1098	30100604	307
10200201	1185	10300101	1178	20200102	9	30100605	0
10200202	1185	10300102	1178	20200103	1098	30100699	9004
10200203	1185	10300103	1178	20200104	9	30100799	9004
10200204	1185	10300205	1178	20200201	7	30100801	0
10200205	1185	10300206	1178	20200202	1001	30100802	0
10200206	1185	10300207	1178	20200203	7	30100803	0
10200210	1185	10300208	1178	20200204	1001	30100804	0
10200212	1185	10300209	1178	20200301	1101	30100805	0
10200213	1085	10300211	1178	20200401	8	30100899	9004
10200217	1185	10300214	1178	20200402	1201	30100901	9017
10200219	1185	10300216	1178	20200403	1201	30100902	9017
10200221	1185	10300217	1178	20200501	9	30100910	9017
10200222	1185	10300221	1178	20200901	1098	30100999	9017
10200223	1185	10300222	1178	20200902	1098	30101011	0
10200224	1185	10300223	1178	20201001	1001	30101012	0
10200225	1185	10300224	1178	20201002	1001	30101013	0
10200226	1185	10300225	1178	20300101	9	30101014	0

(continued)

TABLE C-3. (Continued)

SOURCE CATEGORY	PROFILE ID	SOURCE CATEGORY	PROFILE ID	SOURCE CATEGORY	PROFILE ID	SOURCE CATEGORY	PROFILE ID
30101015	122	30101837	1005	30102314	0	30102728	0
30101021	0	30101838	1005	30102316	0	30102729	0
30101022	0	30101839	1005	30102318	0	30102730	0
30101023	122	30101840	1005	30102319	0	30102801	0
30101030	122	30101842	1005	30102320	0	30102803	0
30101099	122	30101847	1005	30102321	0	30102804	0
30101101	0	30101849	1009	30102322	0	30102805	0
30101198	0	30101852	1040	30102399	0	30102806	0
30101199	9004	30101860	1056	30102401	1092	30102807	0
30101202	3	30101861	1056	30102402	1005	30102820	0
30101203	0	30101863	1056	30102405	1040	30102821	0
30101204	0	30101864	0	30102410	1009	30102822	0
30101205	0	30101865	0	30102414	68	30102823	0
30101206	9004	30101866	0	30102415	1091	30102824	0
30101299	9004	30101870	1005	30102416	1061	30102825	0
30101301	0	30101871	0	30102421	9006	30102903	0
30101302	0	30101872	1005	30102422	9006	30102904	0
30101303	0	30101880	1005	30102423	9006	30102905	0
30101304	0	30101881	0	30102424	9006	30102906	0
30101399	9004	30101882	0	30102425	0	30102907	0
30101401	1094	30101883	0	30102426	0	30102908	0
30101402	0	30101884	0	30102427	9006	30102920	0
30101499	1094	30101885	1005	30102499	9006	30102921	0
30101501	66	30101890	9005	30102501	0	30102922	0
30101502	66	30101891	9005	30102505	1045	30102923	0
30101503	66	30101892	9005	30102599	0	30102924	0
30101505	66	30101893	9005	30102601	274	30102925	0
30101599	66	30101894	9005	30102602	274	30103001	3
30101601	0	30101899	9005	30102608	274	30103002	0
30101602	0	30101901	1006	30102609	274	30103003	0
30101603	0	30101902	0	30102610	0	30103004	0
30101699	9004	30101904	1006	30102611	0	30103020	0
30101702	0	30101905	0	30102612	0	30103021	0
30101703	0	30101906	0	30102613	274	30103022	0
30101704	0	30101907	1006	30102614	274	30103023	0
30101705	0	30102001	72	30102615	274	30103024	0
30101706	0	30102002	9026	30102616	274	30103025	0
30101707	0	30102003	9026	30102617	274	30103099	0
30101708	0	30102004	9026	30102625	274	30103101	1024
30101799	9004	30102005	9026	30102630	274	30103102	1024
30101801	1091	30102099	9026	30102699	274	30103103	1023
30101802	68	30102101	0	30102701	0	30103104	1024
30101803	68	30102102	0	30102704	0	30103105	1025
30101805	1056	30102103	0	30102705	0	30103199	1024
30101807	1056	30102104	3	30102706	0	30103201	9004
30101808	1056	30102105	1185	30102707	0	30103202	9004
30101809	1056	30102106	0	30102708	0	30103203	9004
30101810	1056	30102107	0	30102709	0	30103204	9004
30101811	1056	30102108	0	30102710	0	30103299	9004
30101812	1056	30102110	3	30102711	0	30103301	76
30101813	1056	30102111	3	30102712	0	30103311	76
30101814	1056	30102112	0	30102713	0	30103312	76
30101815	0	30102113	0	30102714	0	30103399	76
30101816	0	30102120	3	30102717	0	30103402	1036
30101817	1004	30102199	9004	30102718	0	30103403	1036
30101818	0	30102201	0	30102720	0	30103404	1036
30101819	1004	30102301	0	30102721	0	30103405	1036
30101820	0	30102304	0	30102722	0	30103406	1036
30101821	0	30102306	0	30102723	0	30103410	1036
30101822	1009	30102308	0	30102724	0	30103411	0
30101827	1009	30102310	0	30102725	0	30103412	0
30101832	1004	30102312	0	30102727	0	30103414	1092

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TABLE C-3. (Continued)

SOURCE CATEGORY	PROFILE ID	SOURCE CATEGORY	PROFILE ID	SOURCE CATEGORY	PROFILE ID	SOURCE CATEGORY	PROFILE ID
30103415	1132	30107001	0	30112525	87	30115321	1034
30103420	1092	30107002	0	30112526	87	30115322	1034
30103425	1092	30109101	1028	30112527	87	30115380	1034
30103430	1132	30109105	1027	30112528	87	30115601	1048
30103435	1092	30109110	1027	30112529	87	30115602	1062
30103499	1092	30109151	1028	30112530	271	30115603	1048
30103501	0	30109152	1028	30112531	271	30115604	1048
30103502	0	30109153	1028	30112532	271	30115605	1062
30103503	0	30109154	1029	30112533	271	30115606	1048
30103506	0	30109180	1028	30112534	271	30115607	1048
30103507	0	30109199	221	30112535	1072	30115680	1048
30103510	0	30110002	1062	30112540	1091	30115701	1049
30103515	0	30110003	1062	30112541	0	30115702	0
30103520	0	30110004	0	30112542	1091	30115704	0
30103550	0	30110005	1062	30112543	1091	30115780	1049
30103551	0	30110099	1062	30112544	1091	30115801	1050
30103552	0	30111103	9011	30112545	1091	30115802	1050
30103553	0	30111199	9011	30112546	1091	30115803	1050
30103554	0	30111201	0	30112547	0	30115821	1050
30103599	9004	30111202	0	30112550	1091	30115822	1050
30103801	9004	30111299	9004	30112551	1091	30115880	1050
30103901	9004	30112001	1030	30112552	1091	30116701	1052
30103902	0	30112002	1030	30112553	1091	30116702	1051
30103903	0	30112005	1030	30112555	1091	30116703	1052
30104001	0	30112006	1030	30112599	78	30116704	1053
30104002	0	30112007	1030	30112699	9004	30116780	1052
30104003	0	30112011	1032	30112701	1040	30116799	1054
30104004	9004	30112012	1032	30112702	1041	30116901	1062
30104005	0	30112013	1032	30112703	0	30116902	0
30104006	0	30112014	1032	30112720	1090	30116903	0
30104007	0	30112017	1032	30112730	1093	30116904	0
30104008	0	30112021	1032	30112740	277	30116905	0
30104009	0	30112031	1032	30112780	1042	30116906	0
30104010	9004	30112032	1032	30113004	3	30116980	1062
30104011	9004	30112033	1032	30113005	3	30117401	1057
30104012	0	30112034	1032	30113201	1070	30117402	1057
30104013	0	30112037	1032	30113205	9004	30117410	1056
30104101	0	30112099	1033	30113210	1032	30117411	1057
30104102	0	30112199	1032	30113221	1043	30117421	1058
30104103	0	30112401	1034	30113222	1043	30117480	1057
30104104	0	30112402	1034	30113223	1043	30117601	9004
30104199	0	30112403	1034	30113224	1043	30117610	9004
30104201	0	30112404	0	30113227	1043	30117611	0
30104202	0	30112405	0	30113299	1044	30117612	0
30104203	0	30112406	1035	30113301	1045	30117613	0
30104204	202	30112407	1035	30113302	1045	30117614	0
30104301	0	30112480	1034	30113303	1045	30117615	0
30104501	0	30112501	1038	30113380	1045	30117616	9004
30105001	9021	30112502	78	30113701	1046	30117617	0
30106001	9004	30112504	1039	30113710	1047	30117618	9004
30106002	0	30112505	0	30113799	9004	30117630	9004
30106003	9004	30112506	1037	30114001	0	30117631	9004
30106004	9004	30112509	1038	30114002	0	30117632	9004
30106005	9004	30112510	1070	30114003	0	30117633	9004
30106006	9004	30112511	1070	30114004	1120	30117634	9004
30106007	9004	30112512	1070	30114005	1120	30117680	9004
30106008	9004	30112514	1070	30115201	0	30118101	1176
30106009	9004	30112515	0	30115301	1034	30118102	1176
30106010	9004	30112520	85	30115310	1034	30118103	1176
30106011	9004	30112521	85	30115311	1034	30118104	1176
30106012	9004	30112522	85	30115312	1034	30118105	1176
30106099	9004	30112524	85	30115320	1034	30118106	1077

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TABLE C-3. (Continued)

SOURCE CATEGORY	PROFILE ID	SOURCE CATEGORY	PROFILE ID	SOURCE CATEGORY	PROFILE ID	SOURCE CATEGORY	PROFILE ID
30118107	1176	30120528	1173	30125180	1078	30130403	9004
30118108	1176	30120529	1173	30125201	1136	30130404	9004
30118109	0	30120530	1173	30125301	9004	30130405	9004
30118110	0	30120531	1173	30125302	9004	30130480	9004
30118180	1176	30120532	1173	30125305	1070	30130501	1131
30119001	1059	30120540	1173	30125306	1070	30130502	1131
30119002	1059	30120541	1173	30125315	226	30130503	1131
30119003	1059	30120542	1173	30125316	226	30130504	1131
30119004	1059	30120543	0	30125325	1027	30130505	1131
30119010	1059	30120544	1173	30125326	1027	30130580	1131
30119011	1059	30120545	1173	30125380	9004	30180001	9004
30119012	1059	30120546	68	30125401	9004	30181001	9004
30119013	1060	30120547	1173	30125405	1109	30182001	9004
30119014	1060	30120548	1173	30125406	1009	30183001	9004
30119080	1059	30120549	1173	30125407	1109	30184001	9004
30119501	1062	30120550	1173	30125408	1109	30187001	0
30119502	1061	30120551	1173	30125409	1109	30187002	0
30119503	1062	30120552	1173	30125410	1110	30187003	0
30119504	1061	30120553	1173	30125411	0	30187004	0
30119505	1062	30120554	1173	30125412	1110	30187005	0
30119506	1062	30120555	1173	30125413	1110	30187006	0
30119580	1062	30120580	1173	30125415	1034	30187007	0
30119701	1064	30120601	1066	30125416	1110	30187008	0
30119705	9004	30120602	1067	30125417	0	30187009	0
30119706	0	30120603	1068	30125418	1110	30187010	0
30119707	9004	30120680	1066	30125420	1110	30187097	0
30119708	9004	30121001	9004	30125499	9004	30187098	0
30119709	9004	30121002	9004	30125801	1073	30187501	0
30119710	9004	30121003	9004	30125802	1073	30187502	0
30119741	1064	30121004	0	30125803	1062	30187597	0
30119742	0	30121005	9004	30125805	90	30187598	0
30119743	1064	30121006	9004	30125806	90	30188501	0
30119744	0	30121007	9004	30125807	90	30188502	0
30119745	1064	30121008	9004	30125810	1174	30188503	0
30119749	1064	30121009	9004	30125815	223	30188504	0
30119799	9004	30121010	9004	30125816	223	30188505	0
30120201	1082	30121080	9004	30125817	223	30188599	0
30120202	1082	30121101	1062	30125880	223	30188801	9004
30120203	1082	30121102	1062	30125899	223	30188802	9004
30120204	1082	30121103	1062	30130101	1072	30188803	9004
30120205	1029	30121104	1062	30130102	1073	30188804	9004
30120206	1082	30121121	1062	30130103	1073	30188805	9004
30120210	1082	30121122	1062	30130104	1072	30190001	2
30120211	1082	30121123	1062	30130105	1074	30190002	1
30120280	1082	30121124	1062	30130106	1075	30190003	3
30120501	1065	30121125	1062	30130107	1076	30190004	4
30120502	1065	30121180	1062	30130108	1077	30190011	2
30120503	1065	30125001	1070	30130110	0	30190012	1
30120504	1065	30125002	1070	30130135	1072	30190013	3
30120505	1065	30125003	1071	30130180	1072	30190014	4
30120506	1065	30125004	1070	30130201	1119	30190099	79
30120507	1065	30125005	226	30130202	1119	30199998	9004
30120508	1065	30125010	226	30130203	1119	30199999	9004
30120509	0	30125015	0	30130280	1119	30200101	9008
30120520	1173	30125020	9007	30130301	9004	30200102	0
30120521	1173	30125021	9007	30130302	9004	30200103	0
30120522	1173	30125025	9007	30130303	9004	30200104	0
30120523	0	30125099	9007	30130304	9004	30200199	9008
30120524	1173	30125101	1078	30130305	9004	30200201	1032
30120525	1173	30125102	1078	30130380	9004	30200202	1032
30120526	1173	30125103	1078	30130401	9004	30200203	0
30120527	1173	30125104	0	30130402	9004	30200299	9008

(continued)

TABLE C-3. (Continued)

SOURCE CATEGORY	PROFILE ID	SOURCE CATEGORY	PROFILE ID	SOURCE CATEGORY	PROFILE ID	SOURCE CATEGORY	PROFILE ID
30200301	0	30200774	0	30201915	9008	30300306	11
30200401	0	30200781	0	30201916	9008	30300307	0
30200402	0	30200782	0	30201917	9008	30300308	11
30200403	0	30200783	0	30201918	9008	30300309	0
30200404	0	30200784	0	30201919	9008	30300310	0
30200410	0	30200785	0	30201920	9008	30300311	0
30200501	9008	30200786	0	30201999	9008	30300312	0
30200502	9008	30200787	0	30202001	9008	30300313	11
30200503	0	30200788	0	30202002	9008	30300314	11
30200504	0	30200789	0	30202101	0	30300315	0
30200505	0	30200790	0	30202102	0	30300316	0
30200506	0	30200791	0	30202105	0	30300399	11
30200507	0	30200799	9008	30202106	0	30300401	11
30200508	0	30200801	9008	30202201	9008	30300502	16
30200509	0	30200802	0	30202601	0	30300503	16
30200510	0	30200803	0	30202801	9008	30300504	0
30200511	0	30200804	0	30203001	9008	30300505	0
30200512	0	30200805	0	30203099	9008	30300506	16
30200601	9008	30200806	0	30203103	0	30300507	16
30200602	9008	30200899	9008	30203104	0	30300508	0
30200603	0	30200901	0	30203105	0	30300509	0
30200604	0	30200902	1188	30203106	0	30300510	0
30200605	0	30200903	0	30203107	0	30300511	0
30200606	0	30200904	0	30203108	0	30300512	0
30200607	0	30200905	0	30203109	0	30300513	0
30200608	0	30200998	1188	30203110	0	30300514	0
30200609	0	30200999	1188	30203111	0	30300515	0
30200610	0	30201001	0	30203201	9008	30300516	0
30200611	0	30201002	1188	30203202	9008	30300517	0
30200699	9008	30201003	1188	30203299	9008	30300518	0
30200701	9008	30201004	1188	30203399	9008	30300521	0
30200702	9008	30201103	0	30203601	9008	30300522	0
30200703	0	30201104	1188	30203801	9008	30300523	0
30200704	0	30201105	1188	30288801	9008	30300524	0
30200705	0	30201106	1188	30288802	9008	30300525	0
30200711	0	30201199	1188	30288803	9008	30300526	0
30200712	0	30201201	9008	30288804	9008	30300527	0
30200713	0	30201202	9008	30288805	9008	30300528	0
30200714	0	30201203	9008	30290001	2	30300599	9009
30200721	0	30201204	9008	30290002	1	30300601	16
30200722	0	30201205	9008	30290003	3	30300602	16
30200723	0	30201206	9008	30299998	9008	30300603	16
30200724	0	30201301	1084	30299999	9008	30300604	16
30200731	0	30201401	9008	30300001	0	30300605	16
30200732	0	30201501	9008	30300002	25	30300610	0
30200733	0	30201599	9008	30300101	1202	30300611	16
30200734	0	30201601	9008	30300102	1202	30300613	0
30200741	0	30201699	9008	30300103	1202	30300614	0
30200742	0	30201799	9008	30300104	0	30300615	16
30200743	0	30201899	9008	30300105	1202	30300616	16
30200744	0	30201901	9008	30300106	0	30300617	16
30200745	0	30201902	9008	30300107	1202	30300699	16
30200751	0	30201903	9008	30300108	0	30300701	16
30200752	0	30201904	9008	30300109	0	30300702	16
30200753	0	30201906	9008	30300110	0	30300703	16
30200754	0	30201907	9008	30300111	0	30300704	16
30200755	0	30201908	9008	30300199	11	30300801	12
30200756	0	30201909	9008	30300201	3	30300802	12
30200760	0	30201911	9008	30300302	11	30300804	0
30200771	0	30201912	9008	30300303	11	30300805	0
30200772	0	30201913	9008	30300304	11	30300808	0
30200773	0	30201914	9008	30300305	11	30300809	0

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TABLE C-3. (Continued)

SOURCE CATEGORY	PROFILE ID	SOURCE CATEGORY	PROFILE ID	SOURCE CATEGORY	PROFILE ID	SOURCE CATEGORY	PROFILE ID
30300811	13	30301013	0	30303010	0	30400237	0
30300812	0	30301014	0	30303011	0	30400238	0
30300813	13	30301015	0	30303012	0	30400239	0
30300814	0	30301016	0	30303014	0	30400299	9010
30300815	0	30301017	0	30303015	0	30400301	1089
30300816	0	30301018	0	30303016	0	30400302	1089
30300817	0	30301019	0	30303099	9009	30400303	0
30300818	0	30301020	0	30388801	9009	30400304	1089
30300819	13	30301021	0	30388802	9009	30400305	1089
30300820	0	30301022	0	30388803	9009	30400310	1089
30300821	0	30301023	0	30388804	9009	30400315	0
30300822	13	30301024	0	30388805	9009	30400320	1089
30300823	0	30301025	0	30390001	2	30400325	1089
30300824	13	30301026	0	30390002	1	30400330	1089
30300825	9009	30301099	9009	30390003	3	30400331	1089
30300826	0	30301101	0	30390004	4	30400332	1089
30300827	0	30301102	0	30390011	2	30400333	1089
30300831	0	30301199	9009	30390012	1	30400340	0
30300832	0	30301201	0	30390013	3	30400341	0
30300833	0	30301202	25	30390014	4	30400342	0
30300834	0	30301299	25	30390023	51	30400350	0
30300899	9009	30301301	0	30390024	79	30400351	1089
30300901	14	30301401	0	30399999	9009	30400352	0
30300904	16	30301402	25	30400101	1036	30400353	1089
30300906	14	30301403	25	30400102	1036	30400354	1089
30300907	14	30301499	9009	30400103	1036	30400355	1089
30300908	14	30302301	0	30400104	0	30400356	0
30300910	0	30302302	0	30400105	0	30400357	0
30300911	14	30302303	0	30400106	0	30400358	0
30300912	0	30302304	0	30400107	0	30400360	0
30300913	16	30302305	0	30400108	0	30400370	1089
30300914	16	30302306	0	30400109	1036	30400371	1089
30300915	1089	30302307	0	30400110	9010	30400398	9010
30300916	12	30302308	0	30400111	9010	30400399	9010
30300917	12	30302309	0	30400112	9010	30400401	0
30300918	12	30302310	0	30400113	9010	30400402	0
30300919	12	30302311	0	30400114	1036	30400403	0
30300921	1089	30302312	3	30400120	9010	30400404	0
30300922	0	30302313	1	30400150	1036	30400405	0
30300923	1089	30302314	1085	30400199	1036	30400406	1089
30300924	0	30302315	0	30400204	9010	30400407	1089
30300925	1089	30302316	0	30400207	25	30400408	0
30300931	1004	30302321	0	30400208	11	30400409	0
30300932	0	30302322	0	30400209	3	30400410	0
30300933	1009	30302401	0	30400210	12	30400411	0
30300934	3	30302402	0	30400211	12	30400412	0
30300935	1089	30302403	0	30400212	12	30400413	0
30300936	1089	30302404	0	30400214	14	30400414	0
30300998	9009	30302405	0	30400215	14	30400499	9010
30300999	9009	30302406	0	30400217	14	30400501	9010
30301001	0	30302407	0	30400219	14	30400505	0
30301002	0	30302408	0	30400220	14	30400506	0
30301003	0	30302409	0	30400221	0	30400507	0
30301004	0	30302410	0	30400223	0	30400508	0
30301005	0	30302411	25	30400224	0	30400509	0
30301006	0	30303002	0	30400230	0	30400510	0
30301007	0	30303003	0	30400231	0	30400511	0
30301008	0	30303005	0	30400232	0	30400512	0
30301009	1089	30303006	0	30400233	0	30400513	0
30301010	0	30303007	0	30400234	0	30400521	0
30301011	0	30303008	0	30400235	0	30400522	0
30301012	0	30303009	0	30400236	0	30400523	0

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TABLE C-3. (Continued)

SOURCE CATEGORY	PROFILE ID	SOURCE CATEGORY	PROFILE ID	SOURCE CATEGORY	PROFILE ID	SOURCE CATEGORY	PROFILE ID
30400524	0	30400862	1036	30500111	1007	30500710	0
30400525	0	30400863	1036	30500112	23	30500711	0
30400526	0	30400864	1036	30500113	1007	30500712	0
30400527	0	30400865	1036	30500198	9011	30500714	0
30400528	0	30400866	0	30500199	1007	30500715	0
30400599	9010	30400867	1036	30500201	25	30500716	0
30400601	1089	30400868	1036	30500202	26	30500717	0
30400699	9010	30400869	1036	30500203	1007	30500718	0
30400701	14	30400870	1036	30500204	1007	30500719	0
30400702	14	30400871	0	30500205	0	30500799	9011
30400703	14	30400872	0	30500206	25	30500801	9001
30400704	14	30400873	0	30500207	25	30500802	0
30400705	0	30400874	0	30500208	25	30500803	0
30400706	0	30400875	0	30500299	1007	30500899	9011
30400707	14	30400876	0	30500301	9001	30500901	3
30400708	1089	30400877	0	30500302	0	30500902	3
30400709	1089	30400899	9010	30500303	0	30500903	3
30400710	1089	30400901	1036	30500304	3	30500904	0
30400711	0	30400999	1036	30500307	9001	30500905	0
30400712	0	30401001	3	30500308	0	30500906	0
30400713	0	30401002	0	30500309	0	30500907	0
30400714	1089	30401004	3	30500311	3	30500908	0
30400715	1089	30401005	0	30500312	1	30500909	0
30400716	0	30401006	0	30500313	1185	30500910	0
30400717	1089	30401007	14	30500314	3	30500999	9011
30400718	1089	30401008	14	30500315	1	30501001	9001
30400720	1089	30401010	0	30500316	1185	30501002	9001
30400721	0	30401011	0	30500398	9011	30501003	9001
30400722	0	30401099	9010	30500399	9011	30501004	9001
30400723	0	30402001	9010	30500401	0	30501005	9001
30400724	0	30402002	0	30500402	0	30501006	9001
30400725	0	30402003	0	30500403	0	30501007	9001
30400726	0	30402004	9001	30500404	0	30501008	0
30400730	1089	30402099	9010	30500405	0	30501009	0
30400731	1089	30402201	3	30500406	0	30501010	0
30400799	1089	30402210	1036	30500499	9011	30501011	0
30400801	0	30404001	1091	30500501	9001	30501012	0
30400802	1036	30404901	0	30500502	0	30501013	0
30400803	1036	30405001	9010	30500503	0	30501014	0
30400805	1036	30405099	9010	30500504	9001	30501015	0
30400806	1036	30488801	9010	30500505	9011	30501016	0
30400807	1036	30488802	9010	30500598	9011	30501017	0
30400809	1036	30488803	9010	30500599	9011	30501021	0
30400810	1036	30488804	9010	30500606	9001	30501022	0
30400811	1036	30488805	9010	30500607	0	30501023	0
30400812	0	30490001	2	30500608	0	30501024	0
30400814	0	30490002	1	30500609	0	30501030	0
30400818	0	30490003	3	30500610	0	30501031	0
30400824	1036	30490004	4	30500611	0	30501032	0
30400828	1036	30490011	2	30500612	0	30501033	0
30400834	1036	30490012	1	30500613	0	30501034	0
30400838	1036	30490013	3	30500614	0	30501035	0
30400840	0	30490014	4	30500615	0	30501036	0
30400841	1036	30490023	51	30500616	0	30501037	0
30400842	1036	30490024	79	30500617	0	30501038	0
30400843	1036	30499999	9010	30500618	0	30501039	0
30400851	0	30500101	1007	30500619	0	30501040	0
30400852	0	30500102	1007	30500699	9011	30501041	0
30400853	0	30500103	1007	30500706	0	30501042	0
30400854	0	30500104	24	30500707	0	30501043	0
30400855	0	30500105	24	30500708	0	30501044	0
30400861	1036	30500110	1007	30500709	0	30501045	0

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TABLE C-3. (Continued)

SOURCE CATEGORY	PROFILE ID	SOURCE CATEGORY	PROFILE ID	SOURCE CATEGORY	PROFILE ID	SOURCE CATEGORY	PROFILE ID
30501046	0	30501508	0	30502015	0	30504033	0
30501047	0	30501509	0	30502016	0	30504034	0
30501048	0	30501510	0	30502020	0	30504036	0
30501049	0	30501511	9001	30502099	0	30504099	9011
30501050	0	30501512	9001	30502101	0	30510001	0
30501090	0	30501513	9001	30502102	9001	30510002	0
30501099	9011	30501514	0	30502103	0	30510003	0
30501101	0	30501515	0	30502104	0	30510004	0
30501106	0	30501516	0	30502105	0	30510005	0
30501107	0	30501517	0	30502106	0	30510006	0
30501108	0	30501518	0	30502201	0	30510007	0
30501109	0	30501519	0	30502299	9001	30510101	0
30501110	0	30501520	9001	30502401	0	30510102	0
30501111	0	30501521	0	30502499	0	30510103	0
30501112	0	30501522	0	30502501	0	30510104	0
30501113	0	30501599	9011	30502502	0	30510105	0
30501114	0	30501601	0	30502503	0	30510106	0
30501115	0	30501602	0	30502504	0	30510107	0
30501120	0	30501603	9001	30502505	0	30510108	0
30501199	9011	30501604	9001	30502506	0	30510196	0
30501201	9011	30501605	9001	30502507	0	30510197	0
30501202	9011	30501606	9001	30502508	9001	30510198	0
30501203	9011	30501607	0	30502509	0	30510199	9011
30501204	9011	30501608	0	30502510	0	30510201	0
30501205	9011	30501609	0	30502511	0	30510202	0
30501206	9011	30501610	0	30502599	0	30510203	0
30501207	0	30501611	0	30502601	0	30510204	0
30501208	9011	30501612	0	30502699	9011	30510205	0
30501209	9011	30501613	0	30503099	9011	30510206	0
30501211	9011	30501614	0	30503101	0	30510207	0
30501212	9011	30501615	0	30503102	0	30510208	0
30501213	0	30501616	0	30503103	0	30510296	0
30501214	0	30501617	9001	30503104	0	30510297	0
30501215	0	30501699	9011	30503105	0	30510298	0
30501221	0	30501701	0	30503106	0	30510299	9011
30501222	0	30501702	0	30503107	0	30510301	0
30501223	0	30501703	9001	30503108	0	30510302	0
30501224	0	30501704	9001	30503109	0	30510303	0
30501299	9011	30501705	9001	30503110	0	30510304	0
30501301	9011	30501799	9001	30503111	0	30510305	0
30501399	9011	30501801	0	30503199	9011	30510306	0
30501401	9011	30501899	9001	30503201	0	30510307	0
30501402	9011	30501901	9001	30503202	0	30510308	0
30501403	9011	30501902	0	30503203	0	30510396	0
30501404	9011	30501903	0	30503204	0	30510397	0
30501406	9011	30501904	0	30503205	0	30510398	0
30501407	0	30501905	0	30503206	0	30510399	9011
30501408	9011	30501999	9011	30503299	9011	30510401	0
30501410	0	30502001	0	30503301	0	30510402	0
30501411	9011	30502002	0	30504001	0	30510403	0
30501412	9011	30502003	0	30504002	0	30510404	0
30501413	0	30502004	0	30504003	0	30510405	0
30501414	9001	30502005	0	30504010	0	30510406	0
30501415	0	30502006	0	30504020	0	30510407	0
30501499	9011	30502007	0	30504021	0	30510408	0
30501501	9001	30502008	0	30504022	0	30510496	0
30501502	0	30502009	0	30504023	0	30510497	0
30501503	9001	30502010	0	30504024	0	30510498	0
30501504	0	30502011	0	30504025	0	30510499	9011
30501505	0	30502012	0	30504030	0	30510501	0
30501506	0	30502013	0	30504031	0	30510502	0
30501507	0	30502014	0	30504032	0	30510503	0

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TABLE C-3. (Continued)

SOURCE CATEGORY	PROFILE ID	SOURCE CATEGORY	PROFILE ID	SOURCE CATEGORY	PROFILE ID	SOURCE CATEGORY	PROFILE ID
30510504	0	30600817	321	30700499	9013	30800104	274
30510505	0	30600818	321	30700501	0	30800105	272
30510506	0	30600819	39	30700597	9001	30800106	274
30510507	0	30600820	39	30700598	9001	30800107	274
30510508	0	30600821	31	30700599	9001	30800108	274
30510596	0	30600822	47	30700701	1189	30800109	0
30510597	0	30600901	2	30700702	0	30800110	0
30510598	0	30600902	1	30700703	0	30800120	273
30510599	9011	30600903	51	30700704	1189	30800121	272
30515001	0	30600904	79	30700705	1189	30800122	274
30515002	0	30600999	79	30700706	1189	30800123	274
30515003	0	30601001	9012	30700707	1189	30800197	274
30515004	0	30601101	1007	30700708	0	30800198	274
30515005	0	30601201	9012	30700709	1189	30800199	274
30588801	9011	30601401	9012	30700711	1189	30800501	274
30588802	9011	30601599	9012	30700712	1189	30800699	1008
30588803	9011	30609902	1	30700713	1189	30800701	9021
30588804	9011	30609903	3	30700714	1189	30800702	0
30588805	9011	30609904	4	30700715	1189	30800703	9021
30590001	2	30609911	2	30700798	1189	30800704	9021
30590002	1	30609912	1	30700799	1189	30800705	0
30590003	3	30609913	3	30700801	0	30800720	1005
30590011	2	30609914	4	30700802	0	30800721	1005
30590012	1	30610001	9012	30700803	0	30800722	1005
30590013	3	30688801	9012	30700804	0	30800723	1005
30590023	51	30688802	9012	30700805	0	30800724	1005
30599999	9011	30688803	9012	30700806	0	30800799	9014
30600101	1	30688804	9012	30700807	0	30890001	2
30600102	3	30688805	9012	30700808	0	30890002	1
30600103	1	30699998	9012	30700896	9013	30890003	3
30600104	3	30699999	9012	30700897	9013	30890011	2
30600105	3	30700101	0	30700898	9013	30890012	1
30600106	4	30700102	9001	30700899	9013	30890013	3
30600107	3	30700103	0	30701199	9013	30890023	51
30600108	202	30700104	9001	30701301	9013	30899999	9014
30600199	9012	30700105	9001	30701399	9013	30900198	9003
30600201	29	30700106	9001	30702098	9013	30900199	9003
30600202	0	30700107	9001	30702099	9013	30900201	0
30600301	29	30700108	9001	30703001	0	30900202	0
30600401	9012	30700109	9001	30703002	0	30900203	0
30600402	9012	30700110	9001	30703096	0	30900204	0
30600503	31	30700199	9001	30703097	0	30900205	0
30600504	31	30700203	0	30703098	0	30900206	0
30600505	9012	30700211	0	30703099	0	30900207	0
30600506	9012	30700212	0	30788801	9013	30900208	0
30600602	9012	30700213	0	30788802	9013	30900298	0
30600603	9012	30700214	0	30788803	9013	30900299	0
30600701	35	30700215	0	30788804	9013	30900301	0
30600702	35	30700221	9001	30788805	9013	30900302	0
30600801	316	30700222	9001	30788898	9013	30900303	0
30600802	47	30700223	9001	30790001	2	30900304	0
30600803	321	30700231	0	30790002	1	30901001	9003
30600804	39	30700232	0	30790003	3	30901097	9003
30600805	321	30700233	0	30790011	2	30901098	9003
30600806	321	30700234	0	30790012	1	30901099	9003
30600807	321	30700299	9013	30790013	3	30901101	0
30600811	47	30700301	0	30790023	51	30901102	0
30600812	47	30700302	0	30799998	9013	30901103	0
30600813	47	30700303	9001	30799999	9013	30901104	9003
30600814	47	30700304	0	30800101	273	30901199	9003
30600815	47	30700401	9001	30800102	274	30901501	0
30600816	47	30700402	9001	30800103	274	30901601	24

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TABLE C-3. (Continued)

SOURCE CATEGORY	PROFILE ID	SOURCE CATEGORY	PROFILE ID	SOURCE CATEGORY	PROFILE ID	SOURCE CATEGORY	PROFILE ID
30901604	0	31299999	9003	39000602	0	40100225	271
30901605	1007	31307001	122	39000603	0	40100235	1195
30901606	1007	31307002	122	39000605	3	40100236	1195
30901607	1007	31390001	2	39000689	3	40100251	1192
30902099	9010	31390002	1	39000699	0	40100252	87
30902501	9003	31390003	3	39000701	217	40100253	85
30903004	9003	31399999	9003	39000702	0	40100254	275
30903005	9003	31400901	0	39000788	4	40100255	271
30903006	9003	31401001	122	39000789	5	40100256	90
30903099	9003	31401002	122	39000797	0	40100257	277
30904001	9003	31401101	0	39000798	0	40100258	88
30904010	0	31401102	0	39000799	0	40100259	89
30904020	9003	31499999	9003	39000801	5	40100295	1195
30906001	9003	31501001	0	39000889	5	40100296	1195
30906099	9003	31501002	9026	39000899	0	40100297	1195
30988801	9003	31501003	0	39000989	1084	40100298	1195
30988802	9003	31502001	1031	39000999	0	40100299	1195
30988803	9003	32099997	9016	39001089	3	40100301	1149
30988804	9003	32099998	9016	39001099	0	40100302	275
30988805	9003	32099999	9016	39001299	0	40100303	1192
30990001	2	33000101	0	39001389	122	40100304	85
30990002	1	33000102	1096	39001399	0	40100305	87
30990003	3	33000103	0	39990001	2	40100306	271
30990011	2	33000104	1096	39990002	1	40100335	1195
30990012	1	33000105	0	39990003	3	40100336	1195
30990013	3	33000198	1095	39990004	4	40100398	1195
30990023	51	33000199	1095	39990011	2	40100399	1195
30999997	9003	33000201	9023	39990012	1	40100401	85
30999998	9003	33000202	9023	39990013	3	40100499	9017
30999999	9003	33000211	9023	39990014	4	40188801	9017
31000101	1011	33000212	9023	39990022	79	40188802	9017
31000102	1011	33000213	9023	39990023	51	40188803	9017
31000103	1011	33000214	9023	39990024	79	40188804	9017
31000104	1011	33000298	9023	39999993	9003	40188805	9017
31000105	1011	33000299	9023	39999994	9003	40188898	9017
31000199	1011	33000399	9016	39999995	9003	40200101	1003
31000201	0	33000499	9016	39999996	9003	40200110	1003
31000202	1012	33000599	9016	39999998	9003	40200201	1013
31000203	1012	33088801	9016	39999999	9003	40200210	1013
31000204	1012	33088802	9016	40100101	85	40200301	127
31000205	51	33088803	9016	40100102	1193	40200310	127
31000206	1012	33088804	9016	40100103	85	40200401	1017
31000207	1012	33088805	9016	40100104	1193	40200410	1017
31000299	1012	36000101	0	40100105	277	40200501	1018
31000401	2	39000189	0	40100106	277	40200510	1018
31000402	1	39000199	0	40100198	1196	40200601	1019
31000403	1	39000201	0	40100199	1196	40200610	1019
31000404	3	39000203	0	40100201	1192	40200701	1088
31000405	4	39000289	1178	40100202	87	40200706	1020
31000411	2	39000299	0	40100203	85	40200707	0
31000412	1	39000389	1178	40100204	275	40200710	1088
31000413	1	39000399	0	40100205	271	40200801	1003
31000414	3	39000402	0	40100206	90	40200802	1003
31000415	4	39000403	0	40100207	277	40200803	1003
31088801	1010	39000489	1	40100208	1021	40200810	1003
31088802	9015	39000499	0	40100215	1195	40200898	1003
31088803	9015	39000501	2	40100216	1195	40200899	1003
31088804	9012	39000502	0	40100217	1195	40200901	1016
31088805	9015	39000503	0	40100221	1192	40200902	219
31088904	9015	39000589	3	40100222	87	40200903	288
31100199	9003	39000598	0	40100223	85	40200904	289
31100299	9003	39000599	0	40100224	275	40200905	1118

(continued)

TABLE C-3. (Continued)

SOURCE CATEGORY	PROFILE ID	SOURCE CATEGORY	PROFILE ID	SOURCE CATEGORY	PROFILE ID	SOURCE CATEGORY	PROFILE ID
40200906	290	40201502	0	40202032	1003	40290023	51
40200907	222	40201503	1003	40202033	1003	40299995	1187
40200908	292	40201504	0	40202034	1003	40299996	1187
40200909	220	40201505	1003	40202099	1003	40299997	1187
40200910	226	40201531	1003	40202101	1003	40299998	1187
40200911	1015	40201599	1003	40202103	1003	40299999	9021
40200912	227	40201601	1194	40202104	0	40300101	1014
40200913	228	40201602	0	40202105	1003	40300102	297
40200914	1014	40201603	1194	40202106	1003	40300103	1015
40200915	229	40201604	0	40202107	1003	40300104	297
40200916	1150	40201605	1194	40202108	1003	40300105	100
40200917	291	40201606	1194	40202109	1003	40300106	100
40200918	221	40201619	1194	40202131	1003	40300107	297
40200919	1022	40201620	1003	40202132	1003	40300108	1062
40200920	225	40201621	1194	40202133	1003	40300109	299
40200921	282	40201622	1194	40202199	1003	40300110	1200
40200922	90	40201623	1194	40202201	1003	40300111	301
40200923	225	40201624	1194	40202202	0	40300112	230
40200924	223	40201625	1194	40202203	1003	40300113	1197
40200925	1062	40201626	1194	40202204	0	40300114	1199
40200926	9023	40201627	1194	40202205	1003	40300115	1198
40200927	1026	40201628	1194	40202299	1003	40300116	90
40200928	1031	40201629	1194	40202301	1003	40300150	100
40200998	9021	40201630	1194	40202302	0	40300151	297
40201001	3	40201631	1194	40202303	1003	40300152	100
40201002	2	40201632	1194	40202304	0	40300153	1062
40201003	1	40201699	1194	40202305	1003	40300154	299
40201004	0	40201702	0	40202306	1003	40300155	1200
40201101	1003	40201703	1003	40202399	1003	40300156	301
40201103	1003	40201704	0	40202401	1003	40300157	230
40201104	0	40201705	1003	40202402	0	40300158	1197
40201105	1003	40201721	1003	40202403	1003	40300159	1199
40201111	1003	40201722	1003	40202404	0	40300160	1198
40201112	1003	40201723	1003	40202405	1003	40300161	90
40201113	1003	40201724	1003	40202406	1003	40300198	9024
40201114	1003	40201725	1003	40202499	1003	40300199	9024
40201115	1003	40201726	1003	40202501	1003	40300201	1014
40201116	1003	40201727	1003	40202502	0	40300202	1014
40201199	1003	40201728	1003	40202503	1003	40300203	297
40201201	1003	40201731	1003	40202504	0	40300204	297
40201210	1003	40201732	1003	40202505	1003	40300205	100
40201301	1003	40201733	1003	40202531	1003	40300207	100
40201303	1003	40201734	1003	40202532	1003	40300208	1062
40201304	0	40201735	1003	40202533	1003	40300209	299
40201305	1003	40201736	1003	40202534	1003	40300210	1200
40201399	1003	40201799	1003	40202535	1003	40300211	301
40201401	1003	40201801	1003	40202536	1003	40300212	230
40201402	0	40201803	1003	40202537	1003	40300213	1197
40201403	1003	40201804	0	40202599	1003	40300214	1199
40201404	0	40201805	1003	40202601	1003	40300215	1198
40201405	1003	40201806	1003	40202602	0	40300216	90
40201406	1003	40201899	1003	40202603	1003	40300299	9024
40201431	1003	40201901	1003	40202604	0	40300302	1014
40201432	1003	40201903	1003	40202605	1003	40301001	1015
40201433	1003	40201904	0	40202606	1003	40301002	1014
40201434	1003	40201999	1003	40202607	1003	40301003	1014
40201435	1003	40202001	1003	40202699	1003	40301004	1015
40201436	1003	40202002	0	40288801	1003	40301005	1014
40201437	1003	40202003	1003	40288802	1003	40301006	1014
40201438	1003	40202004	0	40288803	1003	40301007	1015
40201499	1003	40202005	1003	40288804	1003	40301008	1014
40201501	1003	40202031	1003	40288805	1003	40301009	1014

(continued)

TABLE C-3. (Continued)

SOURCE CATEGORY	PROFILE ID	SOURCE CATEGORY	PROFILE ID	SOURCE CATEGORY	PROFILE ID	SOURCE CATEGORY	PROFILE ID
40301010	296	40301207	1062	40400409	0	40600144	1190
40301011	296	40301299	9024	40400410	100	40600145	297
40301012	296	40388801	9024	40400411	0	40600146	100
40301013	100	40388802	9024	40400412	100	40600147	1190
40301014	100	40388803	9024	40400413	0	40600148	297
40301015	100	40388804	9024	40400414	297	40600149	100
40301016	100	40388805	9024	40400497	9025	40600160	100
40301017	100	40399999	9024	40400498	9025	40600161	297
40301018	100	40400101	1015	40500101	333	40600162	1190
40301019	297	40400102	1014	40500199	333	40600163	1190
40301020	297	40400103	1014	40500201	166	40600197	1190
40301021	297	40400104	1015	40500202	1014	40600198	1190
40301097	9024	40400105	1014	40500203	225	40600199	1190
40301098	9024	40400106	1014	40500211	166	40600231	1190
40301099	9024	40400107	1015	40500212	166	40600232	1190
40301101	1015	40400108	1014	40500301	1086	40600233	1190
40301102	1014	40400109	1014	40500302	1118	40600234	1190
40301103	1014	40400110	1015	40500303	290	40600235	1190
40301104	1015	40400111	1014	40500304	226	40600236	1190
40301105	1014	40400112	1014	40500305	227	40600237	1190
40301106	1014	40400113	1015	40500306	304	40600238	1190
40301107	1014	40400114	1014	40500307	282	40600239	1190
40301108	1014	40400115	1014	40500311	1086	40600240	1190
40301109	296	40400116	1014	40500312	1086	40600241	1190
40301110	296	40400117	1014	40500401	332	40600242	1190
40301111	100	40400118	1015	40500411	332	40600243	297
40301112	100	40400119	1014	40500412	332	40600244	100
40301113	100	40400120	1014	40500413	227	40600245	1014
40301114	100	40400151	9025	40500501	182	40600246	100
40301115	297	40400152	9025	40500502	292	40600248	297
40301116	297	40400153	9025	40500503	220	40600249	100
40301117	296	40400154	9025	40500506	221	40600250	1014
40301118	100	40400199	1015	40500507	1022	40600251	297
40301119	100	40400201	1015	40500510	90	40600253	305
40301120	297	40400202	1014	40500511	182	40600254	305
40301130	9024	40400203	1014	40500512	182	40600255	100
40301131	1014	40400204	1015	40500513	183	40600256	1014
40301132	296	40400205	1014	40500598	9026	40600257	297
40301133	100	40400206	1014	40500599	9026	40600259	9027
40301134	100	40400207	1015	40500601	9026	40600298	1190
40301135	297	40400208	1014	40500701	9026	40600299	1190
40301140	9024	40400209	1014	40588801	1191	40600301	1190
40301141	1014	40400210	1014	40588802	1191	40600302	1190
40301142	296	40400211	1015	40588803	1191	40600305	1190
40301143	100	40400212	1014	40588804	1191	40600306	1190
40301144	100	40400213	1014	40588805	1191	40600307	1014
40301145	297	40400250	9025	40600101	1190	40600399	1190
40301150	9024	40400251	9025	40600126	1190	40600401	1100
40301151	1014	40400254	9025	40600130	297	40600402	1100
40301152	296	40400301	297	40600131	1190	40600403	1100
40301153	100	40400302	297	40600132	297	40600499	1190
40301154	100	40400303	297	40600133	100	40602234	1100
40301155	297	40400304	297	40600134	100	40688801	9027
40301197	9024	40400305	297	40600135	297	40688802	9027
40301198	9024	40400401	0	40600136	1190	40688803	9027
40301199	9024	40400402	1015	40600137	297	40688804	9027
40301201	1015	40400403	0	40600138	100	40688805	9027
40301202	1014	40400404	1014	40600139	100	40700401	1106
40301203	1014	40400405	0	40600140	297	40700402	1106
40301204	100	40400406	1014	40600141	1190	40700497	1106
40301205	100	40400407	0	40600142	297	40700498	1106
40301206	297	40400408	297	40600143	100	40700801	289

(continued)

TABLE C-3. (Continued)

SOURCE CATEGORY	PROFILE ID	SOURCE CATEGORY	PROFILE ID	SOURCE CATEGORY	PROFILE ID	SOURCE CATEGORY	PROFILE ID
40700802	289	40703616	90	40705210	1127	40707602	1109
40700803	1027	40703617	1159	40705211	1152	40707697	1109
40700804	1027	40703618	1159	40705212	1152	40707698	1109
40700805	1175	40703619	1165	40705213	1153	40708001	1160
40700806	1175	40703620	1165	40705214	1153	40708002	1160
40700807	1124	40703621	1174	40705215	0	40708097	1160
40700808	1124	40703622	1174	40705216	0	40708098	1160
40700809	226	40703623	223	40705217	0	40708401	0
40700810	226	40703624	223	40705218	0	40708402	0
40700811	1147	40703697	9033	40705297	9036	40708403	1082
40700812	1147	40703698	9033	40705298	9036	40708404	1082
40700813	227	40704001	1105	40705601	0	40708497	9028
40700814	227	40704002	1105	40705602	0	40708498	9028
40700815	291	40704003	1108	40705603	1078	40717205	1162
40700816	291	40704004	1108	40705604	1078	40717206	1162
40700817	304	40704005	1110	40705605	1129	40717207	1140
40700818	304	40704006	0	40705606	1129	40717208	1140
40700897	9029	40704007	1141	40705607	0	40717209	1145
40700898	9029	40704008	1141	40705608	0	40717210	1145
40701601	1163	40704009	1172	40705609	1083	40717211	1171
40701602	1163	40704010	1172	40705610	0	40717212	1171
40701603	1164	40704097	9034	40705697	9037	40717297	9041
40701604	1164	40704098	9034	40705698	9037	40717298	9041
40701605	301	40704401	288	40706001	1112	40717601	299
40701606	301	40704402	288	40706002	1112	40717602	299
40701609	1166	40704403	1114	40706003	0	40717603	230
40701610	1166	40704404	1114	40706004	0	40717604	230
40701611	282	40704405	220	40706005	1119	40717697	9042
40701612	282	40704406	220	40706006	1119	40717698	9042
40701613	282	40704407	1134	40706007	1074	40718097	9046
40701614	282	40704408	1134	40706008	1074	40720801	1136
40701697	9030	40704409	1146	40706009	1079	40720802	1136
40701698	9030	40704410	1146	40706010	1079	40720803	1173
40702001	1130	40704411	228	40706011	1076	40720804	1173
40702002	1130	40704412	228	40706012	1076	40720897	9043
40702003	1144	40704413	1150	40706013	1131	40720898	9043
40702004	1144	40704414	1150	40706014	1131	40722001	1119
40702097	9031	40704415	1151	40706015	1138	40722002	1119
40702098	9031	40704416	1151	40706016	1138	40722003	1121
40703201	1111	40704417	1081	40706017	78	40722004	1121
40703202	1111	40704418	1081	40706018	78	40722005	78
40703203	1132	40704419	1053	40706019	0	40722006	78
40703204	1132	40704420	1053	40706020	0	40722007	0
40703205	1139	40704421	1069	40706021	85	40722008	0
40703206	1139	40704422	1069	40706022	85	40722009	87
40703297	9032	40704423	1087	40706023	271	40722010	87
40703298	9032	40704424	1087	40706024	271	40722097	9044
40703601	1062	40704497	9035	40706097	9038	40722098	9044
40703602	1062	40704498	9035	40706098	9038	40722801	219
40703603	1122	40704801	1158	40706401	0	40722802	219
40703604	1122	40704802	1158	40706402	0	40722803	221
40703605	1123	40704897	1158	40706403	1176	40722804	221
40703606	1123	40704898	1158	40706404	1176	40722805	1022
40703607	1128	40705201	1115	40706497	9039	40722806	1022
40703608	1128	40705202	1115	40706498	9039	40722897	9028
40703609	1135	40705203	1116	40706801	1125	40722898	9028
40703610	1135	40705204	1116	40706802	1125	40723201	1137
40703611	1154	40705205	1118	40706813	1055	40723202	1137
40703612	1154	40705206	1118	40706814	1055	40723297	1137
40703613	1005	40705207	290	40706897	9040	40723298	1137
40703614	1005	40705208	290	40706898	9040	40781201	1104
40703615	90	40705209	1127	40707601	1109	40781202	1107

(continued)

TABLE C-3. (Continued)

SOURCE CATEGORY	PROFILE ID	SOURCE CATEGORY	PROFILE ID	SOURCE CATEGORY	PROFILE ID	SOURCE CATEGORY	PROFILE ID
40781601	0	40787299	0	49099998	9047	50200506	122
40781602	0	40799997	9028	49099999	9047	50200601	79
40781603	0	40799998	9028	50100101	122	50200602	202
40781604	0	40899995	9028	50100102	122	50200901	0
40781605	0	40899997	9028	50100201	121	50290005	0
40781699	0	40899999	9028	50100202	121	50290006	0
40782001	0	49000101	1193	50100505	122	50290010	0
40782002	0	49000102	221	50100506	122	50300101	122
40782003	0	49000103	1022	50100507	122	50300102	122
40782004	0	49000104	1142	50100508	121	50300103	0
40782005	0	49000105	271	50100510	121	50300104	122
40782006	0	49000199	9047	50100511	122	50300105	121
40782007	1148	49000201	9047	50100512	122	50300106	0
40782008	1155	49000202	9047	50100601	9022	50300107	122
40782009	1103	49000203	9047	50100602	9022	50300108	9022
40782010	1168	49000204	9047	50100603	9022	50300109	122
40782011	1126	49000205	9047	50100604	121	50300201	121
40782099	9046	49000206	9047	50100701	9022	50300202	122
40782401	0	49000299	9047	50100702	9022	50300203	9022
40782499	0	49000301	1078	50100703	9022	50300204	9022
40783201	0	49000302	1074	50100704	0	50300501	9022
40783202	0	49000303	1079	50190005	0	50300506	122
40783203	0	49000304	1080	50190006	0	50300601	79
40783299	0	49000399	9047	50190010	0	50300602	9022
40784801	0	49000401	219	50200101	122	50300603	9022
40784899	0	49000402	85	50200102	122	50300701	9022
40786001	0	49000403	1081	50200103	0	50300801	9022
40786002	0	49000404	1082	50200104	122	50300810	9022
40786003	0	49000405	1083	50200105	121	50300820	9022
40786004	0	49000499	9047	50200201	121	50300901	0
40786099	0	49090011	2	50200202	122	50390005	0
40786401	0	49090012	1	50200301	122	50390006	0
40786499	0	49090013	3	50200302	122	50390010	0
40787201	0	49090023	51	50200505	122		

TABLE C-4. U.S. AREA SOURCE SCC-PROFILE ASSIGNMENT FILE

SOURCE CATEGORY	PROFILE ID	SOURCE CATEGORY	PROFILE ID
1	1185	59	0
2	1185	60	307
3	2	61	307
4	1	62	307
5	195	63	1
6	1084	64	307
7	1178	66	0
8	1178	67	0
9	2	68	0
10	1	69	203
11	3	70	203
12	1084	71	203
13	1185	72	203
14	1185	73	203
15	5	74	203
16	2	75	203
17	1	76	203
18	3	77	203
19	1084	78	1195
20	4	79	1196
21	122	80	1191
22	122	81	9014
23	122	82	1016
24	121	83	1194
25	121	84	1003
26	121	85	1003
27	1101	86	1003
28	1101	87	1003
29	1101	88	1003
30	1101	89	1003
31	1101	90	1003
32	1101	91	1003
33	1101	92	1003
34	1101	93	9003
35	1186	94	9028
36	1186	95	197
37	1186	96	1178
38	1186	97	1
39	1101	98	3
40	1201	99	0
41	1201	100	9022
42	1201	101	1007
43	1201	102	9004
44	1201	103	9025
45	1201	104	9012
46	1097	105	9003
47	1099	106	9004
48	1098	107	9006
49	1178	108	9015
50	1201	109	0
51	1	110	1101
52	1186	111	1201
54	1190	112	0
55	0	113	0
56	1099	114	0
57	0	115	0
58	0		

TABLE C-5. CANADIAN AREA SOURCE SCC-PROFILE ASSIGNMENT FILE

SOURCE CATEGORY	PROFILE ID
11100	195
11200	195
11300	2
11400	1185
11510	2
11520	1
11610	1084
11620	1084
11630	1084
11640	1084
12100	3
12200	4
12300	2
12400	1185
12510	2
12520	1
13100	3
13200	3
13300	2
13400	1185
13510	2
13520	1
14100	3
14200	1
14300	2
14400	8
21000	1101
21100	1101
21150	1101
21200	1186
21300	1201
21400	1201
22100	1101
22140	1101
22210	1201
22220	1201
22230	1201
22240	1201
22250	1201
22260	1201
22270	1201
23110	1098
23120	1099
23130	1099
23140	1099
23150	1099
23210	1098
23230	1099
23240	1099
23250	1099
23260	1099
24100	1201
25110	1201
25120	1201
25210	1201
25220	1201
25310	1186
26100	0
26200	0
27110	1190
27111	1190
27120	1190
27130	1190
27140	1190
27150	1100
27160	1100
31300	122
31500	122
32100	122
33100	121
41110	0
41120	0
42110	0
42120	0
42210	0
42220	0
42310	0
42320	0
43100	0
43200	0
44000	202
45100	0
45200	0
45300	0
45400	0
45500	0
46100	0
47100	307
47200	0
51000	9004
52110	9012
52120	9024
53110	0
53120	0
53200	9011
53210	9011
53220	9011
53300	9011
53410	9011
53430	9011
53440	9011
53450	9011
53500	9011
53611	9011
53612	9011
53613	9011
53614	9011
53615	9011
53621	9011
53622	9011
53623	9011
53624	9011
53625	9011
53626	9011
53627	9011
53628	9011
53631	9011
54100	9004
54200	9004
55100	0
55200	0
56000	9005
57100	9013
57200	1189
57300	9013
57400	9013
61110	1201
61120	9008
61130	9008
61140	9008
61150	9008
61160	9008
61210	1201
61220	9008
61230	9008
61240	9008
61310	1201
61320	9008
61330	9008
61340	9008
61410	1201
61420	9008
61430	9008
64000	203
64100	203
65000	76
66100	203
66200	203
66300	203
70000	197
71000	1196
77000	1016
78200	1016
81000	0
85100	9009
85200	9009
85300	9009

APPENDIX D

HYDROCARBON AUGMENTATION FLAG FILE

Table D-1 contains the file used to determine the augmentation of hydrocarbons in the FREDS Hydrocarbon Preprocessor (HCPREP). The weight percents of methane and formaldehyde are taken from the PSPLIT species-profile file. The flags were developed as a result of analyses performed on the profiles and their source category assignments. A flag is set to 1 if augmentation is desired (i.e., this species is not accounted for in NEDS VOC estimates). Using the flags and the weight percents, HCPREP calculates total hydrocarbon (THC) emissions for each source in the inventory.

TABLE D-1. HYDROCARBON AUGMENTATION FLAG FILE

Profile number	Methane wt. pct.	Formaldehyde wt. pct.	Formaldehyde flag	Methane flag
0	7.36	1.55	0	0
1	11.00	42.00	1	0
2	0.00	48.70	1	0
3	56.00	8.00	1	0
4	7.60	7.60	1	0
5	82.80	0.00	1	0
7	70.00	30.00	1	0
8	11.60	0.00	1	0
9	11.60	0.00	1	0
11	45.30	0.00	1	0
12	15.80	0.00	1	0
13	73.30	0.00	1	0
14	0.00	0.00	1	0
16	11.10	0.00	1	0
23	0.00	0.00	1	0
24	21.30	0.00	1	0
25	56.00	8.00	1	0
26	15.70	0.00	1	0
29	36.00	51.00	1	0
31	2.90	0.00	1	0
35	0.00	0.00	1	0
39	13.30	0.00	1	0
47	0.00	0.00	1	0
51	20.00	20.00	1	0
66	0.00	0.00	0	0
68	0.00	0.00	0	0
72	0.00	0.00	0	0
76	0.00	0.00	0	0
78	0.00	0.00	0	0
79	0.00	1.70	1	0
85	0.00	0.00	0	0
87	0.00	0.00	0	0
88	0.00	0.00	0	0
89	0.00	0.00	0	0
90	0.00	0.00	0	0
100	0.00	0.00	0	0
121	0.00	0.00	1	0
122	80.40	0.00	1	0
127	0.00	0.00	0	0
166	63.00	0.00	0	0
182	0.00	0.00	0	0
183	0.00	0.00	0	0
195	100.00	0.00	1	0
197	0.00	0.60	0	0
202	98.70	0.00	1	1
203	70.00	0.00	0	0
217	40.90	0.00	1	0
219	0.00	0.00	0	0
220	0.00	0.00	0	0
221	0.00	0.00	0	0
222	0.00	0.00	0	0

(continued)

TABLE D-1 (continued)

Profile number	Methane wt. pct.	Formaldehyde wt. pct.	Formaldehyde flag	Methane flag
223	0.00	0.00	0	0
225	0.00	0.00	0	0
226	0.00	0.00	0	0
227	0.00	0.00	0	0
228	0.00	0.00	0	0
229	0.00	0.00	0	0
230	0.00	0.00	0	0
271	0.00	0.00	0	0
272	0.00	0.00	0	0
273	0.00	0.00	0	0
274	0.00	0.00	0	0
275	0.00	0.00	0	0
277	0.00	0.00	0	0
282	0.00	0.00	0	0
288	0.00	0.00	0	0
289	0.00	0.00	0	0
290	0.00	0.00	0	0
291	0.00	0.00	0	0
292	0.00	0.00	0	0
296	6.20	0.00	0	0
297	8.80	0.00	0	0
299	0.00	0.00	0	0
301	0.00	0.00	0	0
304	0.00	0.00	0	0
305	2.60	0.00	0	0
307	9.82	0.00	1	1
316	28.60	0.00	1	0
321	3.30	0.00	1	0
332	17.10	21.80	0	0
333	37.66	0.00	0	0
1001	76.69	0.81	1	0
1002	22.40	0.00	1	0
1003	0.00	0.00	0	0
1004	0.00	0.00	0	0
1005	0.00	0.00	0	0
1006	0.00	0.00	0	0
1007	0.00	0.00	1	0
1008	0.00	0.00	0	0
1009	0.00	0.00	0	0
1010	46.31	0.00	0	0
1011	37.60	0.00	0	0
1012	61.30	0.00	0	0
1013	0.00	0.00	0	0
1014	0.00	0.00	0	0
1015	0.00	0.00	0	0
1016	0.00	0.00	0	0
1017	0.00	0.00	0	0
1018	0.00	0.00	0	0
1019	0.00	0.00	0	0
1020	0.00	0.00	0	0
1021	0.00	0.00	0	0

(continued)

TABLE D-1 (continued)

Profile number	Methane wt. pct.	Formaldehyde wt. pct.	Formaldehyde flag	Methane flag
1022	0.00	0.00	0	0
1023	0.00	0.00	0	0
1024	0.00	0.00	0	0
1025	17.23	0.00	0	0
1026	0.00	0.00	0	0
1027	0.00	0.00	0	0
1028	0.00	0.00	0	0
1029	0.00	0.00	0	0
1030	4.28	0.00	0	0
1031	0.00	0.00	0	0
1032	0.00	0.00	0	0
1033	0.00	0.00	0	0
1034	0.00	0.00	0	0
1035	0.00	0.00	0	0
1036	0.00	0.00	1	0
1037	18.35	0.00	0	1
1038	3.73	0.00	0	1
1039	12.94	0.00	0	1
1040	0.00	0.00	0	1
1041	0.00	0.00	0	1
1042	0.00	0.00	0	1
1043	0.00	0.00	0	1
1044	0.00	0.00	0	1
1045	0.00	0.00	0	1
1046	4.88	0.00	0	1
1047	0.00	0.00	0	1
1048	0.00	0.00	0	1
1049	16.07	0.00	0	1
1050	0.00	0.00	0	1
1051	0.00	0.00	0	1
1052	0.00	0.00	0	1
1053	0.00	0.00	0	1
1054	0.00	0.00	0	1
1055	0.00	0.00	0	1
1056	0.00	0.00	0	1
1057	52.30	0.00	0	1
1058	24.38	0.00	0	1
1059	1.79	0.00	0	1
1060	0.00	0.00	0	1
1061	0.00	0.00	0	1
1062	0.00	0.00	0	1
1064	12.46	0.00	0	1
1065	0.51	0.00	0	1
1066	21.73	0.00	0	1
1067	34.72	0.00	0	1
1068	0.00	0.00	0	1
1069	0.00	0.00	0	1
1070	86.71	0.00	0	0
1071	0.00	0.00	0	0
1072	0.00	0.00	0	1
1073	0.00	0.00	0	1

(continued)

TABLE D-1 (continued)

Profile number	Methane wt. pct.	Formaldehyde wt. pct.	Formaldehyde flag	Methane flag
1074	0.00	0.00	0	1
1075	0.00	0.00	0	1
1076	0.00	0.00	0	1
1077	0.00	0.00	0	1
1078	0.00	0.00	0	1
1079	0.00	0.00	0	1
1080	0.00	0.00	0	1
1081	0.00	0.00	0	1
1082	0.00	0.00	0	1
1083	0.00	0.00	0	1
1084	38.39	0.00	1	0
1085	20.00	0.00	1	0
1086	0.00	0.00	0	0
1087	0.00	0.00	0	1
1088	0.00	0.00	0	0
1089	0.00	0.70	1	0
1090	0.00	0.00	0	1
1091	0.00	0.00	0	1
1092	0.00	0.00	0	1
1093	0.00	0.00	0	1
1094	0.00	0.00	0	1
1095	0.00	0.00	0	1
1096	0.00	0.00	0	1
1097	9.38	15.49	1	0
1098	9.57	15.01	1	0
1099	10.95	14.14	1	0
1100	0.00	0.00	0	0
1101	10.07	0.74	1	1
1103	0.00	0.00	0	0
1104	0.00	0.00	0	0
1105	0.00	0.00	0	0
1106	0.00	0.00	0	0
1107	0.00	0.00	0	0
1108	0.00	0.00	0	0
1109	0.00	0.00	0	0
1110	0.00	0.00	0	0
1111	0.00	0.00	0	0
1112	0.00	0.00	0	0
1114	0.00	0.00	0	0
1115	0.00	0.00	0	0
1116	0.00	0.00	0	0
1118	0.00	0.00	0	0
1119	0.00	0.00	0	0
1120	0.00	0.00	0	0
1121	0.00	0.00	0	0
1122	0.00	0.00	0	0
1123	0.00	0.00	0	0
1124	0.00	0.00	0	0
1125	0.00	0.00	0	0
1126	0.00	0.00	0	0
1127	0.00	0.00	0	0

(continued)

TABLE D-1 (continued)

Profile number	Methane wt. pct.	Formaldehyde wt. pct.	Formaldehyde flag	Methane flag
1128	0.00	0.00	0	0
1129	0.00	0.00	0	0
1130	0.00	0.00	0	0
1131	0.00	0.00	0	0
1132	0.00	0.00	0	0
1134	0.00	0.00	0	0
1135	0.00	0.00	0	0
1136	0.00	0.00	0	0
1137	0.00	0.00	0	0
1138	0.00	0.00	0	0
1139	0.00	0.00	0	0
1140	0.00	100.00	0	0
1141	0.00	0.00	0	0
1142	0.00	0.00	0	0
1144	0.00	0.00	0	0
1145	0.00	0.00	0	0
1146	0.00	0.00	0	0
1147	0.00	0.00	0	0
1148	0.00	0.00	0	0
1149	0.00	0.00	0	0
1150	0.00	0.00	0	0
1151	0.00	0.00	0	0
1152	0.00	0.00	0	0
1153	0.00	0.00	0	0
1154	0.00	0.00	0	0
1155	0.00	0.00	0	0
1158	0.00	0.00	0	0
1159	0.00	0.00	0	0
1160	0.00	0.00	0	0
1162	0.00	0.00	0	0
1163	0.00	0.00	0	0
1164	0.00	0.00	0	0
1165	0.00	0.00	0	0
1166	0.00	0.00	0	0
1167	0.00	0.66	1	1
1168	0.00	0.00	0	0
1171	0.00	0.00	0	0
1172	0.00	0.00	0	0
1173	0.00	0.00	0	0
1174	0.00	0.00	0	0
1175	0.00	0.00	0	0
1176	0.00	0.00	0	0
1178	0.00	0.00	1	0
1185	0.00	0.00	1	0
1186	2.45	0.00	1	1
1187	0.00	0.00	0	0
1188	0.00	0.00	0	0
1189	0.00	0.00	1	0
1190	0.00	0.00	0	0
1191	0.00	0.00	0	0
1192	0.00	0.00	0	0

(continued)

TABLE D-1 (continued)

Profile number	Methane wt. pct.	Formaldehyde wt. pct.	Formaldehyde flag	Methane flag
1193	0.00	0.00	0	0
1194	0.00	0.00	0	0
1195	0.00	0.00	0	0
1196	0.00	0.00	0	0
1197	0.00	0.00	0	0
1198	0.00	0.00	0	0
1199	0.00	0.00	0	0
1200	0.00	0.00	0	0
1201	4.40	12.20	0	1
1202	0.00	0.00	0	0
1203	10.97	1.42	1	1
1204	0.04	0.00	1	1
9001	25.35	15.19	1	0
9002	42.45	7.70	1	0
9003	9.02	1.82	0	1
9004	5.07	0.03	0	1
9005	0.00	0.00	0	1
9006	0.00	0.00	0	1
9007	43.35	0.00	0	1
9008	0.00	0.00	1	0
9009	29.10	0.00	1	0
9010	0.00	0.35	1	0
9011	18.60	1.60	1	0
9012	13.01	8.88	1	0
9013	0.00	0.00	1	0
9014	0.00	0.00	0	1
9015	53.81	0.00	1	0
9016	0.00	0.00	0	0
9017	0.00	0.00	0	0
9021	0.00	0.00	0	0
9022	59.71	0.00	1	0
9023	0.00	0.00	0	0
9024	2.01	0.00	0	0
9025	3.02	0.00	0	0
9026	10.01	2.73	0	0
9027	1.30	0.00	0	0
9028	0.00	1.47	0	0
9029	0.00	0.00	0	0
9030	0.00	0.00	0	0
9031	0.00	0.00	0	0
9032	0.00	0.00	0	0
9033	0.00	0.00	0	0
9034	0.00	0.00	0	0
9035	0.00	0.00	0	0
9036	0.00	0.00	0	0
9037	0.00	0.00	0	0
9038	0.00	0.00	0	0
9039	0.00	0.00	0	0
9040	0.00	0.00	0	0
9041	0.00	25.00	0	0

(continued)

TABLE D-1 (continued)

Profile number	Methane wt. pct.	Formaldehyde wt. pct.	Formaldehyde flag	Methane flag
9042	0.00	0.00	0	0
9043	0.00	0.00	0	0
9044	0.00	0.00	0	0
9046	0.00	0.00	0	0
9047	0.00	0.00	0	0

APPENDIX E

CLASS AVERAGE MOLECULAR WEIGHTS FILE

Table E-1 depicts the average molecular weighs for each hydrocarbon class for each profile used in the 1985 NAPAP inventory. The attached SAS program calculates this information and then merges the data with SCC-profile assignments to create molecular weights at the SCC level. The molecular weights in the table are listed as MWAVG1-MWAVG-32, where the numbers 1-32 correspond to the 32 class assignments as depicted in Table 2-1.

```
//uuuMWAVG JOB (aaaafffff,Muuu,,49),ROB,NOTIFY=uuu,TIME=(00,15)
/*ROUTE PRINT HOLD
//MWAVG  EXEC SAS
//SPECIE DD DSN=[species class file],DISP=SHR
//PROFILE DD DSN=[species-profile file],DISP=SHR
//SCC DD DSN=[scc-profile file],DISP=SHR
//OUTFILE DD DSN=uuuaaaa.PSPLIT.MWAVG.PROFILE.SASDAT,UNIT=DISK,
//     DISP=(NEW,CATLG,DELETE),SPACE=(TRK,(100,20),RLSE)
//SYSIN DD *
*;
*****************************************************************;
*                    PSPLIT.MWAVG.SAS  -              ;
*;
* A PROGRAM TO CALCULATE CLASS-LEVEL MOLECULAR WEIGHT AVERAGES;
* BY PROFILE TO ENABLE MOLES-TO-TONS CONVERSIONS;
*;
*    PROFILE FILE - CONTAINS WEIGHT PERCENTS AND MOLECULAR;
*                   WEIGHTS BY PROFILE/SPECIES;
*    SPECIE FILE  - CONTAINS SPECIES-CLASS ASSIGNMENTS;
*    SCC FILE     - CONTAINS SCC-PROFILE ASSIGNMENTS;
*;
*****************************************************************;
*;
*--- STEP 1 - IMPORT EBCDIC FILES TO SAS AND;
*             CALCULATE MOLE FRACTIONS;
*;
DATA PROF1; INFILE PROFILE;
   INPUT @1 PROF_NO 5. @8 SAROAD 5. @19 WTPCT 6. @30 SP_MW 7.;
   IF SAROAD > 40000;
   IF WTPCT > 0;
   KEEP PROF_NO SAROAD WTPCT SP_MW MOLES;
   MOLES=WTPCT/SP_MW;
PROC SORT DATA=PROF1; BY PROF_NO;
*    RETAIN PROF1 FOR MERGE;
*    CALCULATE TOTAL MOLES IN PROFILE (TMP);
DATA PROF2; SET PROF1;
   BY PROF_NO;
   KEEP PROF_NO MOLES;
   RENAME MOLES=TMP;
PROC MEANS DATA=PROF2 NOPRINT SUM;
   BY PROF_NO;
   VAR TMP;
   OUTPUT OUT=PROF3 SUM=TMP;
*    MERGE DATA AND CALCULATE MOLE PERCENTS;
DATA PROFILE;
   MERGE PROF1(IN=IN1) PROF3(IN=IN2);
   BY PROF_NO;
   IF IN1;
   KEEP PROF_NO SAROAD WTPCT SP_MW TMP MOLPCT;
   MOLPCT=(MOLES/TMP)*100;
*;
DATA SPECIE; INFILE SPECIE;
   INPUT @1 SAROAD 5. @9 CLASS 2.;
   IF SAROAD > 40000;
*;
*--- STEP 2 - MERGE PROFILE AND SPECIES FILES TO CREATE;
```

```
*             BASELINE DATA SET;
*;
PROC SORT DATA=PROFILE; BY SAROAD;
PROC SORT DATA=SPECIE; BY SAROAD;
DATA STEP2;
   MERGE PROFILE(IN=IN1) SPECIE(IN=IN2);
   BY SAROAD;
   IF IN1;
   KEEP PROF_NO SAROAD WTPCT SP_MW MOLPCT TMP CLASS;
PROC SORT DATA=STEP2; BY PROF_NO CLASS;
*;
*--- STEP 3 - SUM MOLE PERCENTS BY CLASS FOR EACH PROFILE;
*;
PROC MEANS DATA=STEP2 NOPRINT SUM;
   BY PROF_NO CLASS;
   VAR MOLPCT;
   ID SAROAD SP_MW WTPCT TMP;
   OUTPUT OUT=STEP3 SUM=MOLPCT;
DATA STEP3A; SET STEP3;
   KEEP PROF_NO CLASS MOLPCT;
   RENAME MOLPCT=CLASSMOL;
*;
*--- STEP 4 - MERGE 2 AND 3A TO OBTAIN CLASS MOLE PERCENTS;
*;
DATA STEP4;
   MERGE STEP3A(IN=IN1) STEP2(IN=IN2);
   BY PROF_NO CLASS;
   IF IN2;
   KEEP PROF_NO CLASS SP_MW CLAS_PCT;
   CLAS_PCT = MOLPCT/CLASSMOL;
*;
*--- STEP 5 - CALCULATE WEIGHTED AVERAGE MW'S;
*;
PROC MEANS DATA=STEP4 NOPRINT MEAN;
   BY PROF_NO CLASS;
   WEIGHT CLAS_PCT;
   VAR SP_MW;
OUTPUT OUT=STEP5 MEAN=SP_MW;
*;
*--- STEP 6 - REFORMAT FILE TO 1 RECORD PER PROFILE;
*;
DATA CLASS1; SET STEP5;
   IF CLASS=1;
   RENAME SP_MW=MWAVG1;
PROC SORT DATA=CLASS1; BY PROF_NO;
*;
DATA CLASS2; SET STEP5;
   IF CLASS=2;
   RENAME SP_MW=MWAVG2;
PROC SORT DATA=CLASS2; BY PROF_NO;
*;
DATA CLASS3; SET STEP5;
   IF CLASS=3;
   RENAME SP_MW=MWAVG3;
PROC SORT DATA=CLASS3; BY PROF_NO;
*;
```

```
DATA CLASS4; SET STEP5;
   IF CLASS=4;
   RENAME SP_MW=MWAVG4;
PROC SORT DATA=CLASS4; BY PROF_NO;
*;
DATA CLASS5; SET STEP5;
   IF CLASS=5;
   RENAME SP_MW=MWAVG5;
PROC SORT DATA=CLASS5; BY PROF_NO;
*;
DATA CLASS6; SET STEP5;
   IF CLASS=6;
   RENAME SP_MW=MWAVG6;
PROC SORT DATA=CLASS6; BY PROF_NO;
*;
DATA CLASS7; SET STEP5;
   IF CLASS=7;
   RENAME SP_MW=MWAVG7;
PROC SORT DATA=CLASS7; BY PROF_NO;
*;
DATA CLASS8; SET STEP5;
   IF CLASS=8;
   RENAME SP_MW=MWAVG8;
PROC SORT DATA=CLASS8; BY PROF_NO;
*;
DATA CLASS9; SET STEP5;
   IF CLASS=9;
   RENAME SP_MW=MWAVG9;
PROC SORT DATA=CLASS9; BY PROF_NO;
*;
DATA CLASS10; SET STEP5;
   IF CLASS=10;
   RENAME SP_MW=MWAVG10;
PROC SORT DATA=CLASS10; BY PROF_NO;
*;
DATA CLASS11; SET STEP5;
   IF CLASS=11;
   RENAME SP_MW=MWAVG11;
PROC SORT DATA=CLASS11; BY PROF_NO;
*;
DATA CLASS12; SET STEP5;
   IF CLASS=12;
   RENAME SP_MW=MWAVG12;
PROC SORT DATA=CLASS12; BY PROF_NO;
*;
DATA CLASS13; SET STEP5;
   IF CLASS=13;
   RENAME SP_MW=MWAVG13;
PROC SORT DATA=CLASS13; BY PROF_NO;
*;
DATA CLASS14; SET STEP5;
   IF CLASS=14;
   RENAME SP_MW=MWAVG14;
PROC SORT DATA=CLASS14; BY PROF_NO;
*;
DATA CLASS15; SET STEP5;
```

```
   IF CLASS=15;
   RENAME SP_MW=MWAVG15;
PROC SORT DATA=CLASS15; BY PROF_NO;
*;
DATA CLASS16; SET STEP5;
   IF CLASS=16;
   RENAME SP_MW=MWAVG16;
PROC SORT DATA=CLASS16; BY PROF_NO;
*;
DATA CLASS17; SET STEP5;
   IF CLASS=17;
   RENAME SP_MW=MWAVG17;
PROC SORT DATA=CLASS17; BY PROF_NO;
*;
DATA CLASS18; SET STEP5;
   IF CLASS=18;
   RENAME SP_MW=MWAVG18;
PROC SORT DATA=CLASS18; BY PROF_NO;
*;
DATA CLASS19; SET STEP5;
   IF CLASS=19;
   RENAME SP_MW=MWAVG19;
PROC SORT DATA=CLASS19; BY PROF_NO;
*;
DATA CLASS20; SET STEP5;
   IF CLASS=20;
   RENAME SP_MW=MWAVG20;
PROC SORT DATA=CLASS20; BY PROF_NO;
*;
DATA CLASS21; SET STEP5;
   IF CLASS=21;
   RENAME SP_MW=MWAVG21;
PROC SORT DATA=CLASS21; BY PROF_NO;
*;
DATA CLASS22; SET STEP5;
   IF CLASS=22;
   RENAME SP_MW=MWAVG22;
PROC SORT DATA=CLASS22; BY PROF_NO;
*;
DATA CLASS23; SET STEP5;
   IF CLASS=23;
   RENAME SP_MW=MWAVG23;
PROC SORT DATA=CLASS23; BY PROF_NO;
*;
DATA CLASS24; SET STEP5;
   IF CLASS=24;
   RENAME SP_MW=MWAVG24;
PROC SORT DATA=CLASS24; BY PROF_NO;
*;
DATA CLASS25; SET STEP5;
   IF CLASS=25;
   RENAME SP_MW=MWAVG25;
PROC SORT DATA=CLASS25; BY PROF_NO;
*;
DATA CLASS26; SET STEP5;
   IF CLASS=26;
   RENAME SP_MW=MWAVG26;
PROC SORT DATA=CLASS26; BY PROF_NO;
*;
DATA CLASS27; SET STEP5;
   IF CLASS=27;
   RENAME SP_MW=MWAVG27;
PROC SORT DATA=CLASS27; BY PROF_NO;
*;
DATA CLASS28; SET STEP5;
   IF CLASS=28;
   RENAME SP_MW=MWAVG28;
PROC SORT DATA=CLASS28; BY PROF_NO;
*;
DATA CLASS29; SET STEP5;
   IF CLASS=29;
   RENAME SP_MW=MWAVG29;
PROC SORT DATA=CLASS29; BY PROF_NO;
*;
DATA CLASS30; SET STEP5;
   IF CLASS=30;
   RENAME SP_MW=MWAVG30;
PROC SORT DATA=CLASS30; BY PROF_NO;
*;
DATA CLASS31; SET STEP5;
   IF CLASS=31;
   RENAME SP_MW=MWAVG31;
PROC SORT DATA=CLASS31; BY PROF_NO;
*;
DATA CLASS32; SET STEP5;
   IF CLASS=32;
   RENAME SP_MW=MWAVG32;
PROC SORT DATA=CLASS32; BY PROF_NO;
*;
DATA STEP6;
   MERGE CLASS1 CLASS2 CLASS3 CLASS4 CLASS5 CLASS6 CLASS7 CLASS8
         CLASS9 CLASS10 CLASS11 CLASS12 CLASS13 CLASS14 CLASS15
         CLASS16 CLASS17 CLASS18 CLASS19 CLASS20 CLASS21 CLASS22
         CLASS23 CLASS24 CLASS25 CLASS26 CLASS27 CLASS28 CLASS29
         CLASS30 CLASS31 CLASS32;
   BY PROF_NO;
   DROP CLASS;
   ARRAY MWAVG MWAVG1-MWAVG32;
PROC PRINT DATA=STEP6;
   TITLE "CLASS-AVG MOLECULAR WEIGHTS BY PROFILE";
*;
PROC UNIVARIATE DATA=STEP6 FREQ;
   VAR MWAVG1-MWAVG32;
   TITLE "UNIVARIATE ANALYSIS OF CLASS-LEVEL MOLECULAR WEIGHTS";
*;
*--- COMPLETE JOB BY MATCHING MOLECULAR WEIGHTS TO SCCS;

*;
DATA SCC; INFILE SCC;
   INPUT @14 SCC 8. @24 PROF_NO 4.;
   IF SCC < 10000000;
PROC SORT DATA=SCC; BY PROF_NO;
```

```
DATA OUTDATA;
   MERGE SCC(IN=IN1) STEP6(IN=IN2);
   BY PROF_NO;
   IF IN1;
   DROP PROF_NO;
PROC SORT DATA=OUTDATA OUT=OUTFILE.DATA;
   BY SCC;
```

TABLE E-1. CLASS-AVERAGE MOLECULAR WEIGHTS BY PROFILE

PROF_NO	MWAVG1	MWAVG2	MWAVG3	MWAVG4	MWAVG5	MWAVG6	MWAVG7	MWAVG8
0	16.04	30.07	44.09	58.12	78.7049	104.658	183.026	114
1	16.04	.	.	58.12	86.1700	.	.	.
2	.	.	44.09	58.12	80.1097	108.436	.	.
3	16.04	.	44.09	58.12	72.8912	84.160	.	.
4	16.04	30.07	44.09	58.12	.	.	.	.
5	16.04	30.07	.	.	.	.	.	.
7	16.04	.	.	.	.	.	.	.
8	16.04	30.07	.	.	.	.	.	.
9	16.04	30.07	.	.	.	.	.	.
11	16.04	30.07	44.09	.	.	.	.	.
12	16.04	.	.	.	.	.	.	.
13	16.04	30.07	.	.	.	.	.	.
14	.	.	.	.	86.1700	100.200	.	.
16	16.04	.	44.09	.	.	.	.	.
23	.	30.07	44.09	58.12	77.6794	100.676	.	.
24	16.04	30.07	44.09	58.12	77.6026	108.852	126.260	.
25	16.04	.	44.09	58.12	72.8912	84.160	.	.
26	16.04	30.07	44.09	58.12	80.0381	98.190	.	.
29	16.04	.	.	.	86.1700	.	.	.
31	16.04	30.07	44.09	58.12	78.8415	101.168	.	.
35	.	.	.	.	72.1500	.	.	.
39	16.04	30.07	44.09	58.12	75.2970	100.200	.	.
47	.	30.07	44.09	58.12	.	.	.	.
51	16.04	30.07	44.09	.	.	.	.	.
66	.	.	.	.	.	.	.	.
68	.	.	.	.	.	.	.	.
72	.	.	.	.	.	84.160	.	114
76	.	.	44.09	58.12	80.7111	99.360	.	114
78	.	.	.	.	.	.	.	.
79	.	.	.	.	.	84.160	.	.
85	.	.	.	.	.	.	.	.
87	.	.	.	.	.	.	.	.
88	.	.	.	.	.	.	.	.
89	.	.	.	.	.	.	.	.
90	.	.	.	.	.	.	.	.
100	.	.	.	.	.	145.972	185.302	.
121	.	.	44.09	58.12	84.2024	106.731	.	.
122	16.04	30.07	.	.	.	.	.	.
127	.	.	.	.	.	.	.	.
166	16.04	30.07	44.09	58.12	.	.	.	.
182	.	.	.	.	.	84.160	.	114
183	.	.	.	.	.	.	.	114
195	16.04	.	.	.	.	.	.	.
197	.	.	.	58.12	.	.	.	114
202	16.04	30.07	44.09	58.12	71.1308	.	.	.
203	16.04	30.07	.	.	.	.	.	.
217	16.04	30.07	.	.	.	.	.	.
219	.	.	.	.	.	.	.	.
220	.	.	.	.	.	.	.	.
221	.	.	.	.	.	.	.	.
222	.	.	.	.	.	.	.	.
223	.	.	.	.	.	.	.	.
225	.	.	.	.	.	137.778	156.300	.
226	.	.	.	.	.	.	.	.
227	.	.	.	.	.	.	.	.

(continued)

TABLE E-1. (continued)

PROF_NO	MWAVG1	MWAVG2	MWAVG3	MWAVG4	MWAVG5	MWAVG6	MWAVG7	MWAVG8
228	.	.	.	.	.	.	.	.
229	.	.	.	.	.	.	.	114
230	.	.	.	.	86.1700	.	.	.
271	.	.	.	.	.	.	.	.
272	.	.	.	.	86.1700	93.449	.	.
273	.	.	.	.	86.1021	84.239	.	.
274	.	.	.	.	.	98.187	.	.
275	.	.	.	.	.	.	.	.
277	.	.	.	.	.	.	.	.
282	.	.	.	.	.	.	.	114
288	.	.	.	.	.	.	.	.
289	.	.	.	.	.	.	.	.
290	.	.	.	.	.	.	.	.
291	.	.	.	.	.	.	.	.
292	.	.	.	.	.	.	.	.
296	16.04	30.07	44.09	58.1200	76.2327	105.346	.	.
297	16.04	30.07	44.09	58.1200	76.0490	100.870	.	.
299	.	.	.	.	.	84.160	.	.
301	.	.	.	.	.	100.200	.	.
304	.	.	.	.	.	.	.	.
305	16.04	30.07	44.09	58.1200	76.1434	106.347	.	.
307	16.04	30.07	44.09	58.1200	72.1500	.	.	.
316	16.04	30.07	44.09	58.1200	75.1315	113.583	126.260	.
321	16.04	30.07	44.09	58.1200	78.2960	114.285	126.260	.
332	16.04	.	.	.	.	.	.	.
333	16.04	30.07	44.09	58.1200	.	.	.	.
1001	16.04	30.07	44.09	58.2517	74.1541	105.792	.	.
1002	16.04	.	44.09	58.1200	.	.	.	.
1003	.	.	.	.	.	109.104	129.270	.
1004	.	.	.	.	.	.	.	.
1005	.	.	.	.	.	.	.	.
1006	.	.	.	.	.	.	.	.
1007	.	.	.	.	.	152.264	168.558	.
1008	.	.	.	.	.	.	.	.
1009	.	.	.	.	.	.	.	.
1010	16.04	30.07	44.09	58.1200	80.7296	105.304	.	.
1011	16.04	30.07	44.09	58.1200	80.5173	105.351	.	.
1012	16.04	30.07	44.09	58.1200	81.6081	105.322	.	.
1013	.	.	.	.	.	147.081	156.300	.
1014	.	30.07	44.09	58.8124	74.8085	94.476	.	.
1015	.	30.07	44.09	58.5838	75.3878	99.224	.	.
1016	.	.	.	.	.	120.859	140.142	.
1017	.	.	.	.	.	103.021	129.270	.
1018	.	.	.	.	.	90.030	.	.
1019	.	.	.	.	.	111.650	129.270	.
1020	.	.	.	.	72.3360	84.160	.	.
1021	.	.	.	.	.	.	.	.
1022	.	.	.	.	.	.	.	.
1023	.	.	.	.	.	.	.	.
1024	.	.	.	.	.	.	.	.
1025	16.04	.	.	.	.	.	.	.
1026	.	.	.	.	.	.	.	.
1027	.	.	.	.	.	.	.	.
1028	.	.	44.09	58.1200	.	.	.	.
1029	.	.	.	.	.	.	.	.

(continued)

TABLE E-1. (continued)

PROF_NO	MWAVG1	MWAVG2	MWAVG3	MWAVG4	MWAVG5	MWAVG6	MWAVG7	MWAVG8
1030	16.04	.	.	.	.	.	.	.
1031	.	.	.	.	.	.	.	.
1032	.	.	.	.	.	.	.	.
1033	.	.	44.09	.	.	.	.	.
1034	.	.	.	.	.	.	.	.
1035	.	.	.	.	.	.	.	.
1036	.	.	.	.	.	.	.	.
1037	16.04	30.07	.	.	.	.	.	.
1038	16.04	30.07	.	.	.	.	.	.
1039	16.04	30.07	.	.	.	.	.	.
1040	.	.	.	.	.	.	.	.
1041	.	.	.	.	.	.	.	.
1042	.	.	.	.	.	.	.	.
1043	.	.	44.09	.	.	.	.	.
1044	.	.	.	.	.	.	.	.
1045	.	.	.	.	.	.	.	.
1046	16.04	.	.	.	.	.	.	.
1047	.	.	.	.	.	.	.	.
1048	.	30.07	44.09	58.12	.	.	.	.
1049	16.04	30.07	44.09	58.12	72.15	.	.	.
1050	.	.	.	.	.	84.16	.	.
1051	.	.	.	.	.	.	.	.
1052	.	.	.	.	.	.	.	.
1053	.	.	.	.	.	.	.	.
1054	.	.	.	.	.	.	.	.
1055	.	.	.	.	.	.	.	.
1056	.	.	.	.	.	.	.	.
1057	16.04	30.07	.	.	.	.	.	.
1058	16.04	.	.	.	.	.	.	.
1059	16.04	.	.	.	.	.	.	.
1060	.	.	.	.	.	.	.	.
1061	.	.	.	.	.	.	.	.
1062	.	.	.	.	.	.	.	.
1064	16.04	30.07	44.09	58.12	72.15	.	.	.
1065	16.04	30.07	44.09	.	.	.	.	.
1066	16.04	30.07	.	.	.	.	.	.
1067	16.04	30.07	44.09	58.12	72.15	.	.	.
1068	.	.	.	.	.	.	.	.
1069	.	.	.	.	.	.	.	.
1070	16.04	.	.	.	.	.	.	.
1071	.	.	.	.	.	.	.	.
1072	.	.	.	.	.	.	.	.
1073	.	.	.	.	.	.	.	.
1074	.	.	.	.	.	.	.	.
1075	.	.	.	.	.	.	.	.
1076	.	.	.	.	.	.	.	.
1077	.	.	.	.	.	.	.	.
1078	.	.	.	.	.	.	.	.
1079	.	.	.	.	.	.	.	.
1080	.	.	.	.	.	.	.	.
1081	.	.	.	.	.	.	.	.
1082	.	.	.	.	.	.	.	.
1083	.	.	.	.	.	.	.	.
1084	16.04	30.07	44.09	58.12	.	.	.	.
1085	16.04	30.07	.	.	72.15	.	.	.

(continued)

TABLE E-1. (continued)

PROF_NO	MWAVG1	MWAVG2	MWAVG3	MWAVG4	MWAVG5	MWAVG6	MWAVG7	MWAVG8
1086	.	.	.	.	.	.	.	.
1087	.	.	.	.	.	.	.	.
1088	.	.	.	.	.	100.200	.	.
1089	.	.	.	.	.	.	.	.
1090	.	.	.	.	.	.	.	.
1091	.	.	.	.	.	.	.	.
1092	.	.	.	.	.	.	.	.
1093	.	.	.	.	.	.	.	.
1094	.	.	.	.	.	.	.	.
1095	.	.	.	.	.	.	352.430	.
1096	.	.	.	.	.	.	352.430	.
1097	16.04	30.07	44.09	.	80.6943	141.426	187.873	.
1098	16.04	30.07	44.09	.	80.6827	141.788	187.629	.
1099	16.04	30.07	44.09	.	80.6555	141.714	186.976	.
1100	.	.	.	58.2878	74.5949	99.223	156.320	.
1101	16.04	30.07	44.09	58.4709	79.1757	104.925	156.320	.
1103	.	.	.	.	.	.	.	.
1104	.	.	.	.	.	.	.	.
1105	.	.	.	.	.	.	.	.
1106	.	.	.	.	.	.	.	.
1107	.	.	.	.	.	.	.	.
1108	.	.	.	.	.	.	.	.
1109	.	.	.	.	.	.	.	.
1110	.	.	.	.	.	.	.	.
1111	.	.	.	.	.	.	.	.
1112	.	.	.	.	.	.	.	.
1114	.	.	.	.	.	.	.	.
1115	.	.	.	.	.	.	.	.
1116	.	.	.	.	.	.	.	.
1118	.	.	.	.	.	.	.	.
1119	.	.	.	.	.	.	.	.
1120	.	.	.	.	.	.	.	.
1121	.	.	.	.	.	.	.	.
1122	.	.	.	.	.	.	.	.
1123	.	.	.	.	.	.	.	.
1124	.	.	.	.	.	.	.	.
1125	.	.	.	.	.	.	.	.
1126	.	.	.	.	.	.	.	.
1127	.	.	.	.	.	.	.	.
1128	.	.	.	.	.	.	.	.
1129	.	.	.	.	.	.	.	.
1130	.	.	.	.	.	.	.	.
1131	.	.	.	.	.	.	.	.
1132	.	.	.	.	.	.	.	.
1134	.	.	.	.	.	.	.	.
1135	.	.	.	.	.	.	.	.
1136	.	.	.	.	.	.	.	.
1137	.	.	.	.	.	.	.	.
1138	.	.	.	.	.	.	.	.
1139	.	.	.	.	.	.	.	.
1140	.	.	.	.	.	.	.	.
1141	.	.	.	.	.	.	.	.
1142	.	.	.	.	.	.	.	.
1144	.	.	.	.	.	.	.	.
1145	.	.	.	.	.	.	.	.

(continued)

TABLE E-1. (continued)

PROF_NO	MWAVG1	MWAVG2	MWAVG3	MWAVG4	MWAVG5	MWAVG6	MWAVG7	MWAVG8
1146	.	.	.	.	.	.	.	.
1147	.	.	.	.	.	.	.	.
1148	.	.	.	.	.	.	.	.
1149	.	.	.	.	.	.	.	.
1150	.	.	.	.	.	.	.	.
1151	.	.	.	.	.	.	.	.
1152	.	.	.	.	.	.	.	.
1153	.	.	.	.	.	.	.	.
1154	.	.	.	.	.	.	.	.
1155	.	.	.	.	.	.	.	.
1158	.	.	.	.	.	.	.	.
1159	.	.	.	.	.	.	.	.
1160	.	.	.	.	.	.	.	.
1162	.	.	.	.	.	.	.	.
1163	.	.	.	.	.	142.280	.	.
1164	.	.	.	.	.	.	170.320	.
1165	.	.	.	.	.	.	.	.
1166	.	.	.	.	.	.	212.410	.
1168	.	.	.	.	.	.	.	.
1171	.	.	.	.	.	.	.	.
1172	.	.	.	.	.	.	.	.
1173	.	.	.	.	.	.	.	.
1174	.	.	.	.	.	.	.	.
1175	.	.	.	.	.	.	.	.
1176	.	.	.	.	.	.	.	.
1178	.	30.07	44.09	58.1200	84.297	100.200	.	.
1185	.	30.07	44.09	58.1200	82.380	84.160	.	.
1186	16.04	30.07	.	58.2801	77.322	107.764	142.702	.
1187	.	.	.	.	86.170	84.160	.	.
1188	.	.	.	.	.	.	.	.
1189	.	.	44.09	.	.	.	.	.
1190	.	.	.	58.1200	82.827	109.497	150.016	.
1191	.	.	.	.	.	87.292	218.359	.
1192	.	.	.	.	86.170	107.541	149.901	.
1193	.	.	.	.	.	136.555	152.894	.
1194	.	.	.	.	.	110.160	136.776	.
1195	.	.	.	.	86.170	107.358	149.796	.
1196	.	.	.	.	.	136.615	151.764	.
1197	.	.	.	.	114.220	.	.	.
1198	.	.	.	.	72.150	.	.	.
1199	.	.	.	.	72.150	.	.	.
1200	.	.	.	.	70.140	.	.	.
1201	16.04	30.07	.	58.1200	77.679	113.073	212.410	114
1202	.	.	.	58.2878	74.603	99.396	156.320	.
9001	16.04	30.07	44.09	58.1200	78.564	98.834	.	.
9002	16.04	30.07	44.09	58.1200	75.625	106.220	.	.
9003	16.04	30.07	44.09	58.1200	77.751	97.668	173.735	114
9004	16.04	30.07	44.09	58.1200	76.456	93.258	.	114
9005	.	.	.	.	.	.	.	.
9006	.	.	.	.	.	.	.	.
9007	16.04	.	.	.	.	.	.	.
9008	.	.	.	.	.	.	.	.
9009	16.04	30.07	44.09	.	86.170	100.200	.	.
9010	.	.	.	.	.	.	.	.
9011	16.04	30.07	44.09	58.1200	77.476	109.297	166.655	.

(continued)

TABLE E-1. (continued)

PROF_NO	MWAVG1	MWAVG2	MWAVG3	MWAVG4	MWAVG5	MWAVG6	MWAVG7	MWAVG8
9012	16.04	30.07	44.09	58.1200	75.4938	109.838	126.260	.
9013	.	.	44.09	.	.	.	.	.
9014	.	.	.	.	86.1052	90.732	.	.
9015	16.04	30.07	44.09	58.1200	81.0483	105.308	.	.
9016	.	.	.	.	.	.	352.430	.
9017	.	.	.	.	86.1700	117.385	151.105	.
9021	.	.	.	.	74.3246	114.408	139.808	114
9022	16.04	30.07	44.09	58.1200	84.0099	106.733	.	.
9023	.	.	.	.	.	133.194	142.466	114
9024	16.04	30.07	44.09	58.1200	78.6702	131.580	185.304	.
9025	16.04	30.07	44.09	58.5201	74.4886	98.692	.	.
9026	16.04	30.07	44.09	58.1200	.	85.272	218.354	114
9027	16.04	30.07	44.09	58.1200	77.8614	107.540	147.541	.
9028	.	.	.	.	86.1700	103.840	189.051	.
9029	.	.	.	.	.	.	.	.
9030	.	.	.	.	.	117.589	189.051	.
9031	.	.	.	.	.	.	.	.
9032	.	.	.	.	.	.	.	.
9033	.	.	.	.	.	.	.	.
9034	.	.	.	.	.	.	.	.
9035	.	.	.	.	.	.	.	.
9036	.	.	.	.	.	.	.	.
9037	.	.	.	.	.	.	.	.
9038	.	.	.	.	.	.	.	.
9039	.	.	.	.	.	.	.	.
9040	.	.	.	.	.	.	.	.
9041	.	.	.	.	.	.	.	.
9042	.	.	.	.	86.1700	84.160	.	.
9043	.	.	.	.	.	.	.	.
9044	.	.	.	.	.	.	.	.
9046	.	.	.	.	.	.	.	.
9047	.	.	.	.	.	.	.	.

(continued)

TABLE E-1. (continued)

PROF_NO	MWAVG1	MWAVG2	MWAVG3	MWAVG4	MWAVG5	MWAVG6	MWAVG7	MWAVG8
9012	16.04	30.07	44.09	58.1200	75.4938	109.838	126.260	.
9013	.	.	44.09	.	.	.	.	.
9014	.	.	.	.	86.1052	90.732	.	.
9015	16.04	30.07	44.09	58.1200	81.0483	105.308	.	.
9016	.	.	.	.	.	.	352.430	.
9017	.	.	.	.	86.1700	117.385	151.105	.
9021	.	.	.	.	74.3246	114.408	139.808	114
9022	16.04	30.07	44.09	58.1200	84.0099	106.733	.	.
9023	.	.	.	.	.	133.194	142.466	114
9024	16.04	30.07	44.09	58.1200	78.6702	131.580	185.304	.
9025	16.04	30.07	44.09	58.5201	74.4886	98.692	.	.
9026	16.04	30.07	44.09	58.1200	.	85.272	218.354	114
9027	16.04	30.07	44.09	58.1200	77.8614	107.540	147.541	.
9028	.	.	.	.	86.1700	103.840	189.051	.
9029	.	.	.	.	.	.	.	.
9030	.	.	.	.	.	117.589	189.051	.
9031	.	.	.	.	.	.	.	.
9032	.	.	.	.	.	.	.	.
9033	.	.	.	.	.	.	.	.
9034	.	.	.	.	.	.	.	.
9035	.	.	.	.	.	.	.	.
9036	.	.	.	.	.	.	.	.
9037	.	.	.	.	.	.	.	.
9038	.	.	.	.	.	.	.	.
9039	.	.	.	.	.	.	.	.
9040	.	.	.	.	.	.	.	.
9041	.	.	.	.	.	.	.	.
9042	.	.	.	.	86.1700	84.160	.	.
9043	.	.	.	.	.	.	.	.
9044	.	.	.	.	.	.	.	.
9046	.	.	.	.	.	.	.	.
9047	.	.	.	.	.	.	.	.

(continued)

TABLE E-1. (continued)

PROF_NO	MWAVG9	MWAVG10	MWAVG11	MWAVG12	MWAVG13	MWAVG14	MWAVG15	MWAVG16
0	28.05	42.08	84.2669	73.4885	113.919	95.2592	100.697	117.314
1	.	.	.	.	.	.	.	.
2	.	.	.	.	.	.	.	.
3	.	.	.	.	.	78.1100	92.130	.
4	.	42.08	.	.	.	.	.	.
5	28.05	42.08	.	.	.	78.1100	.	.
7	.	.	.	.	.	.	.	.
8	28.05	42.08	56.1000	54.0900	.	78.1100	.	.
9	28.05	42.08	56.1000	54.0900	.	78.1100	.	.
11	28.05	42.08	56.1000	54.0900	.	78.1100	92.130	.
12	.	.	.	.	.	.	.	.
13	28.05	42.08	.	.	.	.	.	.
14	.	.	.	.	.	78.1100	92.130	.
16	.	.	.	.	.	.	.	.
23	28.05	.	.	.	.	.	.	.
24	28.05	42.08	59.8568	.	70.130	78.1100	92.130	.
25	.	.	.	.	.	78.1100	92.130	.
26	28.05	42.08	56.1000	.	.	78.1100	.	.
29	.	.	.	.	.	.	.	.
31	.	.	.	.	.	78.1100	.	.
35	.	.	.	.	.	.	.	.
39	.	42.08	56.1000	.	.	.	.	.
47	.	42.08	.	.	.	.	.	.
51	.	.	.	.	.	.	.	.
66	.	.	.	.	.	.	.	.
68	.	42.08	.	.	.	.	.	.
72	.	.	.	.	.	.	106.160	134.210
76	.	.	.	.	.	78.1100	92.130	106.160
78	.	.	.	.	.	.	.	.
79	28.05	42.08	60.4379	.	56.100	78.1100	92.130	106.160
85	.	.	.	.	.	.	.	.
87	.	.	.	.	.	.	.	.
88	.	.	.	.	.	.	.	.
89	.	.	.	.	.	.	.	.
90	.	.	.	.	.	.	92.130	.
100	.	.	.	.	.	.	.	.
121	28.05	.	64.7336	.	70.130	.	.	.
122	28.05	42.08	.	.	.	78.1100	.	.
127	.	.	.	.	.	.	.	.
166	.	.	.	.	.	.	.	.
182	.	.	.	.	.	.	106.160	134.210
183	.	.	.	.	.	.	92.130	106.160
195	.	.	.	.	.	.	.	.
197	.	.	.	.	.	.	.	.
202	.	.	.	.	136.230	.	92.130	106.160
203	.	.	.	.	.	.	.	.
217	28.05	42.08	56.1000	.	.	78.1100	.	.
219	.	.	.	.	.	.	.	.
220	.	.	.	.	.	.	.	.
221	.	.	.	.	.	.	.	.
222	.	.	.	.	.	.	.	.
223	.	.	.	.	.	.	.	106.160
225	.	.	.	.	.	.	.	.
226	.	.	.	.	.	.	.	.
227	.	.	.	.	.	.	.	.

(continued)

TABLE E-1. (continued)

PROF_NO	MWAVG9	MWAVG10	MWAVG11	MWAVG12	MWAVG13	MWAVG14	MWAVG15	MWAVG16
228	.	.	.	.	.	.	.	.
229	.	.	.	.	.	.	.	.
230	.	.	.	.	.	.	.	.
271	.	.	.	.	.	.	.	.
272	.	.	.	.	.	78.11	92.130	.
273	.	.	.	.	.	78.11	.	.
274	.	.	.	.	.	.	.	.
275	.	.	.	.	.	.	.	.
277	.	.	.	.	.	.	.	.
282	.	.	.	.	.	.	.	.
288	.	.	.	.	.	.	.	.
289	.	.	.	.	.	.	.	.
290	.	.	.	.	.	.	.	.
291	.	.	.	.	.	.	.	.
292	.	.	.	.	.	.	.	.
296	.	.	.	.	.	78.11	.	.
297	.	.	.	.	.	78.11	92.130	.
299	.	.	.	.	.	.	.	.
301	.	.	.	.	.	.	.	.
304	.	.	.	.	.	.	.	.
305	.	.	.	.	.	.	.	.
307	28.05	42.08	58.117	54.090	56.100	.	.	.
316	.	42.08	.	.	.	78.11	92.130	106.160
321	.	.	.	.	.	78.11	92.130	106.160
332	28.05	42.08	61.877	.	.	.	.	.
333	.	.	.	.	.	.	.	.
1001	28.05	42.08	77.385	57.461	63.537	78.11	94.631	115.728
1002	28.05	.	.	.	.	.	.	.
1003	.	.	112.220	.	.	.	92.301	106.615
1004	.	.	.	.	.	.	106.160	.
1005	.	.	.	.	.	.	.	.
1006	.	.	.	.	.	.	.	140.111
1007	.	.	.	182.350	.	.	.	133.728
1008	.	.	.	54.090	.	.	.	.
1009	.	.	.	.	.	.	.	.
1010	.	.	.	.	.	78.11	.	.
1011	.	.	.	.	.	78.11	.	.
1012	.	.	.	.	.	78.11	.	.
1013	.	.	.	.	.	78.11	.	.
1014	.	.	71.157	66.656	59.027	78.11	92.831	112.845
1015	.	.	73.836	66.402	70.516	78.41	93.680	108.950
1016	.	.	127.050	.	140.270	.	92.837	113.146
1017	.	.	112.220	.	.	.	92.130	106.160
1018	.	.	.	.	.	.	93.731	106.863
1019	.	.	.	.	.	.	92.130	106.160
1020	.	.	90.120	.	.	.	92.130	.
1021	.	.	.	.	.	.	.	.
1022	.	.	.	.	.	.	.	.
1023	.	.	.	.	.	.	.	.
1024	.	.	.	.	.	.	.	106.160
1025	.	.	.	.	.	.	.	106.160
1026	.	.	.	.	.	.	.	.
1027	.	.	.	.	.	.	.	.
1028	.	42.08	56.100	.	.	.	.	.
1029	.	.	.	.	.	.	.	.

(continued)

TABLE E-1. (continued)

PROF_NO	MWAVG9	MWAVG10	MWAVG11	MWAVG12	MWAVG13	MWAVG14	MWAVG15	MWAVG16
1030	.	.	.	.	.	.	.	.
1031	.	.	.	.	.	.	.	.
1032	.	.	.	.	.	.	.	.
1033	.	42.08	.	.	.	.	.	.
1034	.	.	.	54.09	.	.	.	.
1035	.	.	.	.	.	.	.	.
1036	.	.	.	.	.	.	.	.
1037	28.05	.	.	.	.	.	.	.
1038	28.05	.	.	.	.	.	.	.
1039	28.05	.	.	.	.	.	.	.
1040	.	.	.	.	.	.	.	.
1041	.	.	.	.	.	.	.	.
1042	.	.	.	.	.	.	.	.
1043	.	42.08	100.110	.	.	.	.	.
1044	.	.	.	.	.	.	.	.
1045	.	.	.	.	.	78.110	.	.
1046	.	.	100.110	.	.	.	.	.
1047	.	.	112.415	.	.	.	.	.
1048	.	.	84.160	.	.	78.110	106.744	.
1049	.	.	.	.	.	.	.	.
1050	.	.	.	.	.	78.110	.	.
1051	28.05	.	.	.	.	.	.	.
1052	28.05	.	.	.	.	.	.	.
1053	.	.	.	.	.	.	.	.
1054	.	.	.	.	.	.	.	.
1055	.	.	.	.	.	.	.	.
1056	28.05	.	.	.	.	.	.	.
1057	28.05	.	.	.	.	.	.	.
1058	28.05	.	.	.	.	.	.	.
1059	.	.	100.130	.	.	.	.	.
1060	.	.	100.130	.	.	.	.	.
1061	.	.	.	.	.	78.110	.	.
1062	.	.	.	.	.	78.110	.	.
1064	.	.	.	.	.	78.110	92.130	.
1065	.	42.08	.	.	.	.	.	.
1066	28.05	.	.	.	.	78.110	98.915	.
1067	.	.	70.130	.	.	78.110	.	.
1068	.	.	.	.	.	78.110	98.649	.
1069	.	.	.	.	.	.	.	.
1070	.	.	.	.	.	.	.	.
1071	.	.	.	.	.	.	.	.
1072	.	.	.	.	.	90.962	.	.
1073	.	.	.	.	.	79.314	.	.
1074	.	.	.	.	.	112.560	.	.
1075	.	.	.	.	.	108.961	.	.
1076	.	.	.	.	.	147.010	.	.
1077	.	.	.	.	.	146.809	.	.
1078	.	.	.	.	.	.	.	.
1079	.	.	.	.	.	147.010	.	.
1080	.	.	.	.	.	.	.	.
1081	.	.	100.130	.	.	.	.	.
1082	.	.	.	.	.	.	.	.
1083	.	.	.	.	.	.	.	.
1084	28.05	42.08	56.100	.	.	78.110	.	.
1085	.	.	.	.	.	.	.	.

(continued)

TABLE E-1. (continued)

PROF_NO	MWAVG9	MWAVG10	MWAVG11	MWAVG12	MWAVG13	MWAVG14	MWAVG15	MWAVG16
1086	.	.	.	.	.	.	92.130	.
1087	.	.	.	.	.	.	.	.
1088	.	.	.	.	.	.	92.130	.
1089	.	.	.	.	.	78.110	92.130	106.257
1090	.	.	.	.	.	.	.	.
1091	.	.	.	.	.	.	.	.
1092	.	.	.	.	.	.	.	.
1093	.	.	.	.	.	.	.	.
1094	.	.	.	.	.	.	92.130	.
1095	.	.	.	.	.	.	178.230	186.431
1096	.	.	.	.	.	179.644	178.230	176.809
1097	28.05	42.08	69.248	55.4995	79.573	78.110	108.901	122.353
1098	28.05	42.08	69.193	55.5004	79.827	78.110	108.575	122.248
1099	28.05	42.08	69.183	55.5383	80.431	78.110	108.222	122.127
1100	.	.	60.383	63.1670	86.317	78.110	95.110	116.666
1101	28.05	.	63.829	63.5828	112.200	.	97.978	118.780
1103	.	.	70.130	.	.	.	.	.
1104	.	.	.	.	.	.	.	.
1105	.	.	.	.	.	.	.	.
1106	.	.	.	.	.	.	.	.
1107	.	.	.	.	.	.	.	.
1108	.	.	.	.	.	.	.	.
1109	.	.	.	.	.	.	.	.
1110	.	.	.	.	.	.	.	.
1111	.	.	.	.	.	.	.	.
1112	.	.	.	.	.	126.590	.	.
1114	.	.	128.170	.	.	.	.	.
1115	.	.	.	.	.	.	.	.
1116	.	.	.	.	.	.	.	.
1118	.	.	.	.	.	.	.	.
1119	.	.	.	.	.	.	.	.
1120	.	.	.	.	.	.	.	.
1121	.	.	.	.	.	.	.	.
1122	.	.	.	.	.	.	.	.
1123	.	.	.	.	.	.	120.200	.
1124	.	.	.	.	.	.	.	.
1125	.	.	.	.	.	.	.	.
1126	.	.	.	68.1100	.	.	.	.
1127	.	.	.	.	.	.	.	.
1128	.	.	.	.	.	.	.	162.280
1129	.	.	.	.	.	.	.	.
1130	.	.	.	.	168.320	.	.	.
1131	.	.	.	.	.	.	.	.
1132	.	.	.	.	.	.	.	.
1134	.	.	100.110	.	.	.	.	.
1135	.	.	.	.	.	.	106.160	.
1136	.	.	.	.	.	.	.	.
1137	.	.	.	.	.	.	.	.
1138	.	.	.	.	.	.	.	.
1139	.	.	.	.	.	.	.	.
1140	.	.	.	.	.	.	.	.
1141	.	.	.	.	.	.	.	.
1142	.	.	.	.	.	.	.	.
1144	.	.	.	.	98.180	.	.	.
1145	.	.	.	.	.	.	.	.

(continued)

TABLE E-1. (continued)

PROF_NO	MWAVG9	MWAVG10	MWAVG11	MWAVG12	MWAVG13	MWAVG14	MWAVG15	MWAVG16
1086	.	.	.	.	.	.	92.130	.
1087	.	.	.	.	.	.	.	.
1088	.	.	.	.	.	.	92.130	.
1089	.	.	.	.	.	78.110	92.130	106.257
1090	.	.	.	.	.	.	.	.
1091	.	.	.	.	.	.	.	.
1092	.	.	.	.	.	.	.	.
1093	.	.	.	.	.	.	.	.
1094	.	.	.	.	.	.	92.130	.
1095	.	.	.	.	.	.	178.230	186.431
1096	.	.	.	.	.	179.644	178.230	176.809
1097	28.05	42.08	69.248	55.4995	79.573	78.110	108.901	122.353
1098	28.05	42.08	69.193	55.5004	79.827	78.110	108.575	122.248
1099	28.05	42.08	69.183	55.5383	80.431	78.110	108.222	122.127
1100	.	.	60.383	63.1670	86.317	78.110	95.110	116.666
1101	28.05	.	63.829	63.5828	112.200	.	97.978	118.780
1103	.	.	70.130	.	.	.	.	.
1104	.	.	.	.	.	.	.	.
1105	.	.	.	.	.	.	.	.
1106	.	.	.	.	.	.	.	.
1107	.	.	.	.	.	.	.	.
1108	.	.	.	.	.	.	.	.
1109	.	.	.	.	.	.	.	.
1110	.	.	.	.	.	.	.	.
1111	.	.	.	.	.	.	.	.
1112	.	.	.	.	.	126.590	.	.
1114	.	.	128.170	.	.	.	.	.
1115	.	.	.	.	.	.	.	.
1116	.	.	.	.	.	.	.	.
1118	.	.	.	.	.	.	.	.
1119	.	.	.	.	.	.	.	.
1120	.	.	.	.	.	.	.	.
1121	.	.	.	.	.	.	.	.
1122	.	.	.	.	.	.	.	.
1123	.	.	.	.	.	.	120.200	.
1124	.	.	.	.	.	.	.	.
1125	.	.	.	.	.	.	.	.
1126	.	.	.	68.1100	.	.	.	.
1127	.	.	.	.	.	.	.	.
1128	.	.	.	.	.	.	.	162.280
1129	.	.	.	.	.	.	.	.
1130	.	.	.	.	168.320	.	.	.
1131	.	.	.	.	.	.	.	.
1132	.	.	.	.	.	.	.	.
1134	.	.	100.110	.	.	.	.	.
1135	.	.	.	.	.	.	106.160	.
1136	.	.	.	.	.	.	.	.
1137	.	.	.	.	.	.	.	.
1138	.	.	.	.	.	.	.	.
1139	.	.	.	.	.	.	.	.
1140	.	.	.	.	.	.	.	.
1141	.	.	.	.	.	.	.	.
1142	.	.	.	.	.	.	.	.
1144	.	.	.	.	98.180	.	.	.
1145	.	.	.	.	.	.	.	.

(continued)

TABLE E-1. (continued)

PROF_NO	MWAVG9	MWAVG10	MWAVG11	MWAVG12	MWAVG13	MWAVG14	MWAVG15	MWAVG16
1146	.	.	.	.	.	.	.	.
1147	.	.	.	.	.	.	.	.
1148	.	.	.	68.120	.	.	.	.
1149	.	.	.	.	.	.	.	.
1150	.	.	.	.	.	.	.	.
1151	.	.	.	.	.	.	.	.
1152	.	.	.	.	.	.	.	.
1153	.	.	.	.	.	.	.	.
1154	.	.	.	.	.	.	.	.
1155	.	.	.	.	.	.	.	.
1158	.	.	.	.	.	.	.	.
1159	.	.	.	.	.	.	.	106.160
1160	.	.	.	.	.	.	.	.
1162	.	.	.	.	.	.	.	.
1163	.	.	.	.	.	.	.	.
1164	.	.	.	.	.	.	.	.
1165	.	.	.	.	.	.	.	106.160
1166	.	.	.	.	.	.	.	.
1168	.	.	.	.	.	.	.	.
1171	.	.	.	.	.	.	.	.
1172	.	.	.	.	.	.	.	.
1173	.	.	.	.	.	.	.	.
1174	.	.	.	.	.	.	.	106.160
1175	.	.	.	.	.	.	.	.
1176	.	.	.	.	.	.	.	.
1178	.	.	92.977	70.130	98.180	.	101.034	106.160
1185	.	42.08	56.100	.	.	78.110	97.317	106.160
1186	28.05	42.08	80.585	69.953	.	78.110	97.746	115.135
1187	.	.	.	.	.	78.110	96.820	111.023
1188	.	.	.	.	.	.	.	.
1189	.	.	.	136.240	.	.	.	.
1190	.	.	56.100	88.127	79.724	78.329	99.051	113.970
1191	.	.	.	82.140	140.270	.	.	206.043
1192	.	.	127.050	122.282	124.917	.	93.442	119.132
1193	.	.	.	124.230	144.230	112.560	113.702	118.995
1194	.	.	.	91.427	136.587	78.110	103.442	114.183
1195	.	.	127.050	124.230	125.098	78.110	93.154	109.184
1196	.	.	.	124.230	144.021	112.560	114.009	118.919
1197	.	.	.	.	.	.	.	.
1198	.	.	.	.	.	.	.	.
1199	.	.	.	.	.	.	.	.
1200	.	.	.	.	.	.	.	.
1201	28.05	42.08	.	.	.	78.110	92.130	106.354
1202	.	.	60.435	62.949	86.317	78.110	95.087	148.489
9001	28.05	42.08	56.100	.	.	78.110	96.648	106.160
9002	28.05	42.08	56.128	54.112	64.388	78.110	92.130	112.740
9003	28.05	42.08	79.565	87.386	57.245	91.941	103.817	132.651
9004	28.05	42.08	86.296	.	56.100	94.139	95.478	130.824
9005	.	42.08	.	.	.	.	106.160	.
9006	.	.	.	.	.	.	.	.
9007	.	.	.	.	.	.	.	.
9008	.	.	.	.	.	.	.	.
9009	28.05	42.08	56.100	54.090	.	78.110	92.130	.
9010	.	.	.	.	.	78.110	92.130	106.257
9011	28.05	42.08	58.423	182.350	70.130	78.110	92.130	133.720

(continued)

TABLE E-1. (continued)

PROF_NO	MWAVG9	MWAVG10	MWAVG11	MWAVG12	MWAVG13	MWAVG14	MWAVG15	MWAVG16
9012	.	42.08	56.100	.	.	78.110	92.130	106.160
9013	.	.	.	136.240	.	.	.	.
9014	.	.	.	54.090	.	78.110	92.130	.
9015	.	.	.	.	.	78.110	.	.
9016	.	.	.	.	.	179.777	178.230	179.962
9017	.	.	127.050	124.230	135.443	83.810	92.897	116.780
9021	.	.	96.234	.	140.270	78.110	92.970	107.490
9022	28.05	42.08	64.725	.	70.389	78.110	92.130	106.160
9023	.	.	127.050	.	140.270	.	92.775	106.404
9024	.	.	.	.	.	78.110	.	.
9025	.	.	72.114	66.603	66.018	78.256	92.995	109.571
9026	28.05	42.08	61.883	82.140	140.270	.	95.084	168.511
9027	.	.	56.100	88.037	79.405	78.257	99.002	113.946
9028	.	.	93.603	68.115	124.020	126.590	112.745	116.207
9029	.	.	.	.	.	.	.	.
9030	.	.	.	.	.	.	.	.
9031	.	.	.	.	124.020	.	.	.
9032	.	.	.	.	.	.	112.745	116.207
9033	.	.	.	.	.	.	.	.
9034	.	.	.	.	.	.	.	.
9035	.	.	112.415	.	.	.	.	.
9036	.	.	.	.	.	.	.	.
9037	.	.	.	.	.	.	.	.
9038	.	.	.	.	.	126.590	.	.
9039	.	.	.	.	.	.	.	.
9040	.	.	.	.	.	.	.	.
9041	.	.	.	.	.	.	.	.
9042	.	.	.	.	.	.	.	.
9043	.	.	.	.	.	.	.	.
9044	.	.	.	.	.	.	.	.
9046	.	.	70.130	68.115	.	.	.	.
9047	.	.	100.130	.	.	127.499	.	.

(continued)

TABLE E-1. (continued)

PROF_NO	MWAVG17	MWAVG18	MWAVG19	MWAVG20	MWAVG21	MWAVG22	MWAVG23	MWAVG24
0	107.874	107.761	30.03	59.0215	58.08	87.6013	71.798	26.04
1	.	.	30.03	.	58.08	.	.	.
2	.	.	30.03	.	.	.	.	.
3	.	.	30.03	.	.	.	.	.
4	.	.	30.03	.	.	.	.	.
5	.	.	.	.	.	.	.	26.04
7	.	.	30.03	.	.	.	.	.
8	.	.	.	.	.	.	.	26.04
9	.	.	.	.	.	.	.	26.04
11	.	.	.	.	.	.	.	26.04
12	.	.	.	.	.	.	.	.
13	.	.	.	.	.	.	.	26.04
14	.	.	.	.	.	.	.	.
16	.	.	.	.	.	.	.	.
23	.	.	.	.	.	.	.	.
24	.	.	.	.	.	.	.	.
25	.	.	30.03	.	.	.	.	.
26	.	.	.	.	.	.	.	.
29	.	.	30.03	.	.	.	.	.
31	.	.	.	.	.	.	.	.
35	.	.	.	.	.	.	.	.
39	.	.	.	.	.	.	.	.
47	.	.	.	.	.	.	.	.
51	.	.	30.03	.	.	.	.	.
66	.	.	.	.	58.08	78.3908	.	.
68	.	.	.	.	.	.	.	.
72	.	.	.	.	58.08	72.1000	.	.
76	.	.	.	.	.	.	.	.
78	.	.	.	.	.	.	.	.
79	94.110	104.140	30.03	55.5892	.	.	230.000	26.04
85	.	.	.	.	.	.	.	.
87	.	.	.	.	.	.	.	.
88	.	.	.	.	.	.	.	.
89	.	.	.	.	.	.	.	.
90	.	.	.	.	.	.	.	.
100	.	.	.	.	.	.	.	.
121	.	.	.	.	.	.	.	26.04
122	.	.	.	.	.	.	.	.
127	.	.	.	.	58.08	78.3908	.	.
166	.	.	.	.	.	.	.	.
182	.	.	.	.	.	.	.	.
183	.	.	.	.	.	.	.	.
195	.	.	.	.	.	.	.	.
197	.	.	30.03	.	58.08	.	.	.
202	.	.	.	.	.	.	.	.
203	.	.	.	.	58.08	.	.	.
217	.	.	.	.	.	.	.	.
219	.	.	.	.	58.08	.	.	.
220	.	.	.	.	.	.	.	.
221	.	.	.	.	.	72.1000	.	.
222	.	.	.	.	.	.	.	.
223	.	.	.	.	.	.	.	.
225	.	.	.	.	.	.	.	.
226	.	.	.	.	.	.	.	.
227	.	.	.	.	.	.	.	.

(continued)

TABLE E-1. (continued)

PROF_NO	MWAVG17	MWAVG18	MWAVG19	MWAVG20	MWAVG21	MWAVG22	MWAVG23	MWAVG24
228	.	.	.	.	.	.	.	.
229	.	.	.	.	.	.	.	.
230	.	.	.	.	.	.	.	.
271	.	.	.	.	.	.	.	.
272	.	.	.	.	.	.	.	.
273	.	.	.	.	.	.	.	.
274	.	.	.	.	.	.	.	.
275	.	.	.	.	.	.	.	.
277	.	.	.	.	.	.	.	.
282	.	.	.	.	.	.	.	.
288	.	.	.	.	.	.	.	.
289	.	.	.	.	.	.	.	.
290	.	.	.	.	.	.	.	.
291	.	.	.	.	.	.	.	.
292	.	.	.	.	.	.	.	.
296	.	.	.	.	.	.	.	.
297	.	.	.	.	.	.	.	.
299	.	.	.	.	.	.	.	.
301	.	.	.	.	.	.	.	.
304	.	.	.	.	.	.	.	.
305	.	.	.	.	.	.	.	.
307	.	.	.	.	.	.	.	26.04
316	.	.	.	.	.	.	.	.
321	.	.	.	.	.	.	.	.
332	.	.	30.03	.	.	.	.	.
333	.	.	.	.	.	.	.	.
1001	.	.	30.03	52.170	.	.	.	26.04
1002	.	.	.	.	.	.	.	26.04
1003	.	.	.	.	58.08	107.050	.	.
1004	.	104.14	.	.	.	.	.	.
1005	.	104.14	.	.	.	.	.	.
1006	.	.	.	.	.	.	122.130	.
1007	.	.	.	.	.	.	.	.
1008	.	104.14	.	.	.	.	.	.
1009	.	104.14	.	.	.	.	.	.
1010	.	.	.	.	.	.	.	.
1011	.	.	.	.	.	.	.	.
1012	.	.	.	.	.	.	.	.
1013	.	.	.	.	.	114.210	.	.
1014	.	.	.	.	.	.	.	.
1015	.	.	.	86.140	.	.	.	.
1016	.	.	.	113.841	.	72.100	.	.
1017	.	.	.	.	.	.	.	.
1018	.	.	.	.	58.08	107.063	.	.
1019	.	.	.	.	.	.	.	.
1020	.	.	.	.	58.08	73.476	.	.
1021	.	.	.	.	.	.	.	.
1022	.	.	.	.	.	100.160	.	.
1023	.	.	.	.	.	.	.	.
1024	.	.	.	44.050	.	.	.	.
1025	.	.	.	44.050	.	.	88.215	.
1026	.	.	.	.	.	.	.	.
1027	.	.	.	.	.	.	.	.
1028	.	.	.	.	58.08	.	.	.
1029	.	.	.	44.050	58.08	.	.	.

(continued)

TABLE E-1. (continued)

PROF_NO	MWAVG17	MWAVG18	MWAVG19	MWAVG20	MWAVG21	MWAVG22	MWAVG23	MWAVG24
1030	.	.	.	.	.	.	.	.
1031	.	.	.	.	.	.	.	.
1032	.	.	.	53.226	.	.	.	.
1033	.	.	.	56.070	.	.	.	.
1034	.	.	.	.	.	.	.	.
1035	.	.	.	.	.	.	.	.
1036	.	.	.	.	.	.	.	.
1037	.	.	.	.	.	.	.	.
1038	.	.	.	.	.	.	.	.
1039	.	.	.	.	.	.	.	.
1040	.	.	.	.	.	.	.	.
1041	.	.	.	.	.	.	.	.
1042	.	.	.	.	.	.	.	.
1043	.	.	.	55.754	58.08	.	71.0377	.
1044	.	.	.	.	.	72.10	57.1475	.
1045	.	.	.	.	58.08	.	60.0500	.
1046	.	.	.	.	.	.	.	.
1047	.	.	.	.	.	.	.	.
1048	.	.	.	.	.	.	.	.
1049	.	.	.	.	.	.	.	.
1050	.	.	.	106.130	.	98.15	.	.
1051	.	.	.	.	.	.	60.0500	.
1052	.	.	.	.	.	.	.	.
1053	.	.	.	.	.	.	.	.
1054	.	.	.	44.050	.	.	.	.
1055	.	.	.	.	.	114.21	.	.
1056	.	.	.	.	.	.	.	.
1057	.	.	.	.	.	.	.	.
1058	.	.	.	.	.	.	.	.
1059	.	.	.	.	58.08	.	.	.
1060	.	.	.	.	.	.	.	.
1061	.	.	.	.	.	.	.	.
1062	.	.	.	.	.	.	.	.
1064	.	.	.	.	.	.	.	.
1065	.	.	.	.	.	.	.	.
1066	.	104.14	.	.	.	.	.	.
1067	.	.	.	.	.	.	.	.
1068	.	104.14	.	.	.	.	.	.
1069	.	.	.	.	.	.	.	.
1070	.	.	.	.	.	.	.	.
1071	.	.	.	.	.	.	.	.
1072	.	.	.	.	.	.	.	.
1073	.	.	.	.	.	.	.	.
1074	.	.	.	.	.	.	.	.
1075	.	.	.	.	.	.	.	.
1076	.	.	.	.	.	.	.	.
1077	.	.	.	.	.	.	.	.
1078	.	.	.	.	.	.	.	.
1079	.	.	.	.	.	.	.	.
1080	130.19	.	.	.	.	.	.	.
1081	.	.	.	.	.	.	.	.
1082	94.11	.	.	.	.	.	.	.
1083	.	.	.	.	.	.	.	.
1084	.	.	.	.	.	.	.	.
1085	.	.	.	.	.	.	.	.

(continued)

TABLE E-1. (continued)

PROF_NO	MWAVG17	MWAVG18	MWAVG19	MWAVG20	MWAVG21	MWAVG22	MWAVG23	MWAVG24
1086	.	.	.	.	58.08	76.6993	.	.
1087	.	.	.	.	.	.	.	.
1088	.	.	.	.	58.08	82.4457	.	.
1089	94.110	.	30.03	71.8433	.	.	.	.
1090	.	.	.	.	.	.	.	.
1091	.	.	.	.	.	.	.	.
1092	.	.	.	.	.	.	.	.
1093	.	.	.	.	.	.	.	.
1094	.	.	.	.	.	72.1000	.	.
1095	133.319	132.21	.	.	.	.	246.583	.
1096	.	132.21	.	.	.	.	122.130	.
1097	94.110	104.14	30.03	55.6426	58.08	.	.	26.04
1098	94.110	104.14	30.03	55.7068	58.08	.	.	26.04
1099	94.110	104.14	30.03	55.8346	58.08	.	.	26.04
1100	.	.	.	.	.	.	.	.
1101	.	.	30.03	52.2134	.	.	.	26.04
1103	.	.	.	.	.	.	.	.
1104	.	.	.	44.0500	.	.	.	.
1105	.	.	.	.	.	.	60.050	.
1106	.	.	.	.	.	.	.	.
1107	.	.	.	56.0700	.	.	.	.
1108	.	.	.	.	.	.	72.060	.
1109	.	.	.	.	.	.	.	.
1110	.	.	.	.	.	.	146.140	.
1111	.	.	.	.	.	.	.	.
1112	.	.	.	.	.	.	.	.
1114	.	.	.	.	.	.	.	.
1115	.	.	.	.	.	.	.	.
1116	.	.	.	.	.	.	.	.
1118	.	.	.	.	.	.	.	.
1119	.	.	.	.	.	.	.	.
1120	.	.	.	.	.	.	.	26.04
1121	.	.	.	.	.	.	.	.
1122	108.140	.	.	.	.	.	.	.
1123	.	.	.	.	.	.	.	.
1124	.	.	.	.	.	.	.	.
1125	.	.	.	.	.	98.1500	.	.
1126	.	.	.	.	.	.	.	.
1127	.	.	.	.	.	.	.	.
1128	.	.	.	.	.	.	.	.
1129	.	.	.	.	.	.	.	.
1130	.	.	.	.	.	.	.	.
1131	.	.	.	.	.	.	.	.
1132	.	.	.	.	.	.	.	.
1134	.	.	.	.	.	.	.	.
1135	.	.	.	.	.	.	.	.
1136	.	.	.	.	.	.	.	.
1137	.	.	.	.	.	.	.	.
1138	.	.	.	.	.	.	.	.
1139	.	.	.	.	.	.	.	.
1140	.	.	30.03	.	.	.	.	.
1141	.	.	.	.	.	.	46.030	.
1142	.	.	.	96.0900	.	.	.	.
1144	.	.	.	.	.	.	.	.
1145	.	.	.	72.1100	.	.	.	.

(continued)

TABLE E-1. (continued)

PROF_NO	MWAVG17	MWAVG18	MWAVG19	MWAVG20	MWAVG21	MWAVG22	MWAVG23	MWAVG24
1146	.	.	.	.	.	.	.	.
1147	.	.	.	.	.	.	.	.
1148	.	.	.	.	.	.	.	.
1149	.	.	.	.	.	.	.	.
1150	.	.	.	.	.	.	.	.
1151	.	.	.	.	.	.	.	.
1152	.	.	.	.	.	.	.	.
1153	.	.	.	.	.	.	.	.
1154	.	118.190	.	.	.	.	.	.
1155	.	.	.	.	.	.	.	.
1158	.	.	.	.	.	.	.	.
1159	.	.	.	.	.	.	.	.
1160	.	.	.	.	.	.	.	.
1162	.	.	.	72.120	.	.	.	.
1163	.	.	.	.	.	.	.	.
1164	.	.	.	.	.	.	.	.
1165	.	.	.	.	.	.	.	.
1166	.	.	.	.	.	.	.	.
1168	.	.	.	.	.	.	.	.
1171	.	.	.	58.080	.	.	.	.
1172	.	.	.	.	.	.	74.080	.
1173	.	.	.	.	.	.	.	.
1174	.	.	.	.	.	.	.	.
1175	.	.	.	.	.	.	.	.
1176	.	.	.	.	.	.	.	.
1178	.	.	.	.	.	.	.	.
1185	.	.	.	.	.	.	.	26.04
1186	.	.	.	.	.	.	.	26.04
1187	.	.	.	.	.	.	.	.
1188	.	.	.	.	.	.	.	.
1189	.	.	.	.	.	.	.	.
1190	.	116.360	.	146.360	.	98.140	.	.
1191	165.820	.	.	.	.	.	122.130	.
1192	154.623	.	.	.	.	98.140	.	.
1193	154.294	.	.	.	.	157.250	.	.
1194	.	118.190	.	.	.	157.250	220.480	.
1195	154.623	.	.	.	58.08	73.103	.	.
1196	154.623	.	.	.	.	157.250	.	.
1197	.	.	.	.	.	.	.	.
1198	.	.	.	.	.	.	.	.
1199	.	.	.	.	.	.	.	.
1200	.	.	.	.	.	.	.	.
1201	.	.	30.03	.	.	.	.	26.04
1202	94.110	.	.	.	.	.	.	.
9001	.	.	30.03	.	58.08	.	.	26.04
9002	.	.	30.03	54.691	.	.	.	26.04
9003	94.110	104.574	30.03	51.225	58.08	75.748	77.612	26.04
9004	94.110	104.140	30.03	49.768	58.08	75.775	62.661	26.04
9005	.	104.140	.	.	.	.	.	.
9006	.	.	.	.	.	.	.	.
9007	.	.	.	.	.	.	.	.
9008	.	.	.	.	.	.	.	.
9009	.	.	.	.	.	.	.	26.04
9010	94.110	.	30.03	71.835	.	.	.	.
9011	.	.	30.03	.	.	.	.	.

(continued)

TABLE E-1. (continued)

PROF_NO	MWAVG17	MWAVG18	MWAVG19	MWAVG20	MWAVG21	MWAVG22	MWAVG23	MWAVG24
9012	.	.	30.03	.	.	.	.	.
9013	.	.	.	.	.	.	.	.
9014	.	104.140	.	.	.	.	.	.
9015	.	.	.	.	.	.	.	.
9016	133.319	132.210	.	.	.	.	245.076	.
9017	154.623	.	.	.	58.08	91.950	.	.
9021	.	.	.	113.717	58.08	77.936	.	.
9022	.	.	.	.	.	.	.	26.04
9023	.	.	.	113.492	58.08	72.100	.	.
9024	.	.	.	.	.	.	.	.
9025	.	.	.	.	.	.	.	.
9026	166.123	.	30.03	.	58.08	89.041	.	.
9027	.	115.595	.	146.360	.	98.140	.	.
9028	108.140	118.190	30.03	58.488	.	105.573	68.874	.
9029	.	.	.	.	.	.	.	.
9030	.	.	.	.	.	.	.	.
9031	.	.	.	.	.	.	.	.
9032	.	.	.	.	.	.	.	.
9033	108.140	118.190	.	.	.	.	.	.
9034	.	.	.	.	.	.	68.874	.
9035	.	.	.	.	.	.	.	.
9036	.	.	.	.	.	.	.	.
9037	.	.	.	.	.	.	.	.
9038	.	.	.	.	.	.	.	.
9039	.	.	.	.	.	.	.	.
9040	.	.	.	.	.	105.573	.	.
9041	.	.	30.03	66.739	.	.	.	.
9042	.	.	.	.	.	.	.	.
9043	.	.	.	.	.	.	.	.
9044	.	.	.	.	.	.	.	.
9046	.	.	.	.	.	.	.	.
9047	109.248	.	.	96.090	.	.	.	.

(continued)

TABLE E-1. (continued)

PROF_NO	MWAVG17	MWAVG18	MWAVG19	MWAVG20	MWAVG21	MWAVG22	MWAVG23	MWAVG24
9012	.	.	30.03	.	.	.	.	.
9013	.	.	.	.	.	.	.	.
9014	.	104.140	.	.	.	.	.	.
9015	.	.	.	.	.	.	.	.
9016	133.319	132.210	.	.	.	.	245.076	.
9017	154.623	.	.	.	58.08	91.950	.	.
9021	.	.	.	113.717	58.08	77.936	.	.
9022	.	.	.	.	.	.	.	26.04
9023	.	.	.	113.492	58.08	72.100	.	.
9024	.	.	.	.	.	.	.	.
9025	.	.	.	.	.	.	.	.
9026	166.123	.	30.03	.	58.08	89.041	.	.
9027	.	115.595	.	146.360	.	98.140	.	.
9028	108.140	118.190	30.03	58.488	.	105.573	68.874	.
9029	.	.	.	.	.	.	.	.
9030	.	.	.	.	.	.	.	.
9031	.	.	.	.	.	.	.	.
9032	.	.	.	.	.	.	.	.
9033	108.140	118.190	.	.	.	.	.	.
9034	.	.	.	.	.	.	68.874	.
9035	.	.	.	.	.	.	.	.
9036	.	.	.	.	.	.	.	.
9037	.	.	.	.	.	.	.	.
9038	.	.	.	.	.	.	.	.
9039	.	.	.	.	.	.	.	.
9040	.	.	.	.	.	105.573	.	.
9041	.	.	30.03	66.739	.	.	.	.
9042	.	.	.	.	.	.	.	.
9043	.	.	.	.	.	.	.	.
9044	.	.	.	.	.	.	.	.
9046	.	.	.	.	.	.	.	.
9047	109.248	.	.	96.090	.	.	.	.

(continued)

TABLE E-1. (continued)

PROF_NO	MWAVG25	MWAVG26	MWAVG27	MWAVG28	MWAVG29	MWAVG30	MWAVG31	MWAVG32
0	128.069	111.355	47.4279	50.4851	73.5381	92.585	86	90.7242
1	.	.	.	.	.	.	.	.
2	.	.	.	.	.	.	.	.
3	.	.	.	.	.	.	.	.
4	.	.	.	.	.	.	.	.
5	.	.	.	.	.	.	.	.
7	.	.	.	.	.	.	.	.
8	.	.	.	.	.	.	.	.
9	.	.	.	.	.	.	.	.
11	.	.	.	.	.	.	.	.
12	.	.	.	.	.	.	.	92.0000
13	.	.	.	.	.	.	.	.
14	.	.	.	.	.	.	.	92.0000
16	.	.	.	.	.	.	.	92.0000
23	.	.	.	.	.	.	.	.
24	.	.	.	.	.	.	.	.
25	.	.	.	.	.	.	.	.
26	.	.	.	.	.	.	.	.
29	.	.	.	.	.	.	.	.
31	.	.	.	.	.	.	.	.
35	.	.	.	.	.	.	.	.
39	.	.	.	.	.	.	.	.
47	.	.	.	.	.	.	.	.
51	.	.	.	.	.	.	.	.
66	.	.	.	.	.	106.120	.	.
68	.	.	.	.	.	.	.	.
72	.	.	32.0400	46.0700	63.6227	.	.	.
76	.	173.850	.	.	.	.	.	.
78	99.000	.	.	.	.	.	.	.
79	.	62.588	38.3747	46.0700	57.6470	.	.	.
85	165.830	.	.	.	.	.	.	.
87	.	133.420	.	.	.	.	.	.
88	.	137.380	.	.	.	.	.	.
89	.	133.420	.	.	.	.	.	.
90	.	.	.	.	.	.	.	.
100	.	.	.	.	.	.	.	.
121	.	.	.	.	.	.	.	.
122	.	.	.	.	.	.	.	.
127	.	.	.	.	.	106.120	.	.
166	.	.	.	.	.	.	.	.
182	.	.	32.0400	.	80.1056	.	.	.
183	.	.	.	.	.	.	.	.
195	.	.	.	.	.	.	.	.
197	.	.	.	46.0700	61.0526	95.580	.	.
202	165.830	.	.	.	.	.	.	.
203	.	.	.	46.0700	75.6681	51.157	.	.
217	.	.	.	.	.	.	.	.
219	.	.	.	.	.	.	.	.
220	.	.	88.1000	.	.	.	.	.
221	.	.	.	.	.	.	.	.
222	.	.	.	.	.	132.160	.	.
223	.	.	.	.	.	.	.	.
225	.	.	.	.	.	.	.	.
226	.	.	.	46.0700	.	.	.	.
227	.	.	.	.	60.0900	.	.	.

(continued)

TABLE E-1. (continued)

PROF_NO	MWAVG25	MWAVG26	MWAVG27	MWAVG28	MWAVG29	MWAVG30	MWAVG31	MWAVG32
228	.	.	.	102.13	.	.	.	.
229	.	.	.	.	.	.	.	.
230	.	.	.	.	.	.	.	.
271	131.4	.	.	.	.	.	.	.
272	.	.	.	.	.	.	.	.
273	.	.	.	.	.	.	.	.
274	.	.	.	.	.	.	.	.
275	.	84.940	.	.	.	.	.	.
277	.	187.380	.	.	.	.	.	.
282	.	.	.	.	.	.	.	.
288	.	.	.	.	116.160	.	.	.
289	.	.	.	.	74.120	.	.	.
290	.	.	.	.	.	90.120	.	.
291	.	.	32.0400	.	.	.	.	.
292	.	.	.	.	.	.	.	73.090
296	.	.	.	.	.	.	.	.
297	.	.	.	.	.	.	.	.
299	.	.	.	.	.	.	.	.
301	.	.	.	.	.	.	.	.
304	.	.	.	.	60.100	.	.	.
305	.	.	.	.	.	.	.	.
307	.	.	.	.	40.060	.	86	.
316	.	.	.	.	.	.	.	.
321	.	.	.	.	.	.	.	.
332	.	.	.	.	.	.	.	.
333	.	84.940	.	.	60.090	.	.	.
1001	.	.	.	.	.	.	.	134.210
1002	.	71.370	.	.	.	.	.	.
1003	.	.	88.1000	.	117.645	118.170	.	.
1004	.	.	.	.	.	.	.	.
1005	.	.	.	.	.	.	.	.
1006	.	.	.	.	.	.	.	98.060
1007	.	.	.	.	.	.	.	207.020
1008	.	.	.	.	.	.	.	.
1009	.	.	.	.	53.060	.	.	.
1010	.	.	.	.	.	.	.	.
1011	.	.	.	.	.	.	.	.
1012	.	.	.	.	.	.	.	.
1013	.	78.255	.	.	74.120	89.638	.	114.537
1014	.	.	.	.	.	.	.	127.057
1015	.	133.420	.	.	.	.	.	128.502
1016	.	84.940	.	.	87.794	.	.	99.370
1017	.	.	.	.	116.160	.	.	.
1018	.	.	88.1000	.	120.975	.	.	.
1019	.	.	.	.	116.160	118.170	.	.
1020	.	.	.	.	.	.	.	.
1021	.	84.940	.	46.07	.	.	.	.
1022	.	.	.	.	.	.	.	.
1023	.	.	32.0400	.	.	.	.	194.190
1024	.	.	52.0578	46.07	.	.	.	.
1025	.	.	74.0800	.	.	.	.	.
1026	.	.	.	.	.	118.180	.	.
1027	.	.	.	.	.	74.120	.	.
1028	.	.	.	.	.	.	.	.
1029	.	.	.	.	.	.	.	.

(continued)

TABLE E-1. (continued)

PROF_NO	MWAVG25	MWAVG26	MWAVG27	MWAVG28	MWAVG29	MWAVG30	MWAVG31	MWAVG32
1030	.	.	32.04	.	.	.	.	63.839
1031	.	.	44.05	.	.	.	.	.
1032	.	.	.	.	.	.	.	.
1033	.	.	.	.	.	.	.	.
1034	.	.	.	.	.	.	.	.
1035	.	.	.	.	.	.	.	88.540
1036	.	.	.	.	.	.	.	98.968
1037	99	64.520	.	.	62.50	.	.	.
1038	99	64.520	.	.	62.50	.	86	.
1039	99	64.520	.	.	62.50	.	86	.
1040	.	104.178	.	.	.	.	.	.
1041	.	126.622	.	.	.	.	.	.
1042	.	126.206	.	.	.	.	.	.
1043	.	.	.	.	.	.	.	.
1044	.	.	.	.	.	.	.	.
1045	.	.	.	.	.	.	.	102.090
1046	.	.	.	46.07	.	74.12	.	32.040
1047	.	.	.	.	74.12	.	.	.
1048	.	.	.	.	.	.	.	.
1049	.	.	.	.	.	.	.	.
1050	.	.	.	.	.	100.16	.	.
1051	.	.	.	.	.	.	86	86.090
1052	.	.	.	.	.	.	.	.
1053	.	.	.	.	.	.	.	86.090
1054	.	.	.	.	.	.	.	86.090
1055	.	.	.	.	.	.	.	.
1056	.	.	.	.	.	.	.	.
1057	.	.	.	.	.	.	.	.
1058	.	.	.	.	.	.	.	.
1059	.	.	32.04	46.07	.	.	.	60.050
1060	.	.	32.04	46.07	.	.	.	.
1061	.	.	.	.	.	.	.	123.110
1062	.	.	.	.	.	.	.	.
1064	.	.	32.04	.	.	.	.	.
1065	.	.	.	.	.	.	86	112.990
1066	.	.	.	.	.	.	.	.
1067	.	.	.	.	.	.	.	.
1068	.	.	.	.	.	.	.	.
1069	.	.	.	.	102.15	.	.	.
1070	.	.	32.04	46.07	.	.	.	.
1071	.	.	32.04	46.07	.	.	.	.
1072	.	.	.	.	.	.	.	.
1073	.	.	.	.	.	.	.	.
1074	.	.	.	.	.	.	.	.
1075	.	.	.	.	.	.	.	147.010
1076	.	.	.	.	.	.	.	.
1077	.	.	.	.	.	.	.	.
1078	.	.	.	.	.	62.07	.	.
1079	.	.	.	.	.	.	.	.
1080	.	.	.	.	.	.	.	.
1081	.	.	.	.	.	.	.	.
1082	.	.	.	.	.	.	.	.
1083	.	.	.	.	.	76.00	.	.
1084	.	.	.	46.07	.	.	86	.
1085	.	.	.	.	.	.	.	163.320

(continued)

TABLE E-1. (continued)

PROF_NO	MWAVG25	MWAVG26	MWAVG27	MWAVG28	MWAVG29	MWAVG30	MWAVG31	MWAVG32
1086	.	.	.	.	.	.	.	.
1087	.	.	.	.	144.21	.	.	.
1088	.	.	88.1	.	60.09	.	.	.
1089	.	.	.	.	.	.	.	93.174
1090	.	133.082	.	.	.	.	.	.
1091	.	.	.	.	62.50	.	.	.
1092	.	.	.	.	.	.	.	116.200
1093	.	75.667	.	.	.	.	.	.
1094	.	.	.	.	.	.	.	.
1095	.	.	.	.	.	390.91	86	186.426
1096	.	.	.	.	.	.	86	166.529
1097	.	.	.	.	.	.	.	234.024
1098	.	.	.	.	.	.	.	234.272
1099	.	.	.	.	.	.	.	236.322
1100	.	.	.	.	.	.	86	.
1101	.	.	.	.	40.06	40.06	86	.
1103	.	.	.	.	.	.	.	.
1104	.	.	.	.	.	.	.	.
1105	.	.	.	.	.	.	.	.
1106	.	.	.	.	.	.	.	102.090
1107	.	.	.	.	.	.	.	.
1108	.	.	.	.	.	.	.	.
1109	.	.	.	.	53.06	.	.	.
1110	.	.	.	.	.	.	.	.
1111	.	.	.	.	.	.	.	93.130
1112	.	.	.	.	.	.	.	.
1114	.	.	.	.	.	.	.	.
1115	.	.	.	.	.	162.23	.	.
1116	.	.	.	.	.	118.17	.	.
1118	.	.	.	.	.	134.18	.	.
1119	.	153.840	.	.	.	.	.	.
1120	.	.	.	.	.	.	.	.
1121	.	119.390	.	.	.	.	.	.
1122	.	.	.	.	.	.	.	.
1123	.	.	.	.	.	.	.	.
1124	.	.	.	.	.	100.16	.	.
1125	.	.	.	.	.	.	.	.
1126	.	.	.	.	.	.	.	.
1127	.	.	.	.	.	.	.	106.120
1128	.	.	.	.	.	.	.	.
1129	.	.	.	.	.	.	.	134.180
1130	.	.	.	.	.	.	.	.
1131	.	.	.	.	.	.	.	92.530
1132	.	.	.	.	.	.	.	61.080
1134	.	.	.	.	.	.	.	.
1135	.	.	.	.	.	.	.	.
1136	.	.	.	.	.	74.12	.	.
1137	.	.	.	.	.	.	.	62.130
1138	.	.	.	.	.	.	.	187.880
1139	.	.	.	.	.	.	.	43.070
1140	.	.	.	.	.	.	.	.
1141	.	.	.	.	.	.	.	.
1142	.	.	.	.	.	.	.	.
1144	.	.	.	.	.	.	.	.
1145	.	.	.	.	.	.	.	.

(continued)

TABLE E-1. (continued)

PROF_NO	MWAVG25	MWAVG26	MWAVG27	MWAVG28	MWAVG29	MWAVG30	MWAVG31	MWAVG32
1146	.	.	.	.	.	.	.	128.190
1147	.	.	.	.	.	74.120	.	.
1148	.	.	.	.	.	.	.	.
1149	.	.	32.0400	.	.	.	.	.
1150	.	.	74.0800	.	.	.	.	.
1151	.	.	.	.	.	.	.	86.090
1152	.	.	.	.	.	120.150	.	.
1153	.	.	.	.	.	76.110	.	.
1154	.	.	.	.	.	.	.	.
1155	.	.	.	.	.	.	.	54.090
1158	.	.	.	.	.	.	.	88.150
1159	.	.	.	.	.	.	.	.
1160	.	.	.	.	.	.	.	123.110
1162	.	.	.	.	.	.	.	.
1163	.	.	.	.	.	.	.	.
1164	.	.	.	.	.	.	.	.
1165	.	.	.	.	.	.	.	.
1166	.	.	.	.	.	.	.	.
1168	.	.	.	.	.	.	.	68.120
1171	.	.	.	.	.	.	.	.
1172	.	.	.	.	.	.	.	.
1173	.	.	58.0800	.	.	.	.	.
1174	.	.	.	.	.	.	.	.
1175	.	.	74.1200	.	.	.	.	.
1176	.	.	.	.	.	.	.	174.170
1178	.	.	.	.	.	.	.	.
1185	.	.	.	.	.	.	.	.
1186	.	.	.	.	40.060	54.200	86	142.324
1187	.	.	.	.	.	.	.	.
1188	.	.	88.1000	46.07	.	74.120	.	88.150
1189	.	.	.	.	.	.	.	136.240
1190	.	.	.	.	.	.	.	78.793
1191	.	.	.	102.13	102.150	.	.	210.245
1192	.	.	.	.	.	.	.	141.356
1193	.	.	.	.	.	.	.	151.689
1194	.	.	.	.	.	154.282	.	145.002
1195	138.89	128.532	.	.	.	74.120	.	139.634
1196	165.83	187.380	.	.	.	.	.	153.111
1197	.	.	.	.	.	.	.	.
1198	.	.	.	.	.	.	.	.
1199	.	.	.	.	.	.	.	.
1200	.	.	.	.	.	.	.	.
1201	.	.	.	.	.	.	.	.
1202	.	.	.	.	.	.	86	170.665
9001	.	.	.	.	.	.	.	163.320
9002	.	.	.	.	.	.	.	.
9003	99.00	97.101	39.2826	46.07	62.624	75.869	86	88.760
9004	99.00	97.188	39.3024	46.07	62.641	75.993	86	78.884
9005	.	.	.	.	58.591	.	.	.
9006	.	.	.	.	.	.	.	116.200
9007	.	.	32.0400	46.07	.	.	.	.
9008	.	.	88.1000	46.07	.	74.120	.	88.150
9009	.	.	.	.	.	.	.	92.000
9010	.	.	.	.	.	.	.	98.528
9011	.	.	.	.	.	.	.	207.020

(continued)

TABLE E-1. (continued)

PROF_NO	MWAVG25	MWAVG26	MWAVG27	MWAVG28	MWAVG29	MWAVG30	MWAVG31	MWAVG32
9012	.	.	.	.	.	.	.	.
9013	.	.	.	.	.	.	.	136.240
9014	.	.	.	.	.	.	.	.
9015	.	.	.	.	.	.	.	.
9016	.	.	.	.	.	392.826	86	172.783
9017	150.455	120.326	32.0400	46.070	.	74.120	.	147.197
9021	.	78.880	52.0496	63.497	80.730	115.142	.	85.295
9022	165.830	.	.	.	.	.	.	.
9023	.	84.940	50.7858	63.497	77.838	115.683	.	73.752
9024	.	.	.	.	.	.	.	.
9025	.	133.420	.	.	.	.	.	128.545
9026	.	.	32.0400	102.130	91.531	134.180	.	208.999
9027	.	.	.	.	.	.	.	77.623
9028	.	134.443	67.8607	.	76.615	99.369	.	85.554
9029	.	.	74.1200	.	60.100	85.195	.	.
9030	.	.	.	.	.	.	.	.
9031	.	.	.	.	.	.	.	.
9032	.	.	.	.	.	.	.	59.609
9033	.	.	.	.	.	.	.	.
9034	.	.	.	.	.	.	.	.
9035	.	.	74.0800	.	119.590	.	.	103.004
9036	.	.	.	.	.	114.834	.	106.120
9037	.	.	.	.	.	.	.	134.180
9038	.	153.840	.	.	.	.	.	123.994
9039	.	.	.	.	.	.	.	174.170
9040	.	.	.	.	.	.	.	.
9041	.	.	.	.	.	.	.	.
9042	.	.	.	.	.	.	.	.
9043	.	.	58.0800	.	.	74.120	.	.
9044	.	134.443	.	.	.	.	.	.
9046	.	.	.	.	.	.	.	60.300
9047	.	.	.	.	.	68.332	.	.

APPENDIX F

COMPUTER CODE USED TO DEVELOP THE TSP SPECIATION FACTOR FILES

```
//uuuTSP1 JOB (aaaafffff,Muuu),RW,NOTIFY=uuu,TIME=(,10),PRTY=4
/*ROUTE PRINT HOLD
//TSP1 EXEC SAS
//INFILE DD DSN=[partitioned SAS data set containing PM files],DISP=SHR
//OUTFILE DD DSN=[intermediate PM species-profile file],UNIT=DISK,
//          DISP=(NEW,CATLG,DELETE),SPACE=(TRK,(100,20),RLSE)
//SYSIN DD *
*;
***** 1985 NAPAP INVENTORY TSP SPECIATION FACTOR DEVELOPMENT *****
*****      PART 1 - DEVELOPMENT OF SPECIES-PROFILE FILE      *****
*
***** THIS PROGRAM WILL CONVERT THE SAS-FORMATTED            *****
***** PARTICULATE SPECIES DATA TO A FORM                     *****
***** LIKE THAT OF THE VOC SPECIES-PROFILE FILE.             *****
***** SUBSEQUENT PROGRAMS WILL MERGE THIS WITH SCC-PROFILE   *****
***** ASSIGNMENTS AND OUTPUT TO EBCDIC, CREATING INPUT FOR   *****
***** THE FREDS SPECIATION MODULE.                           *****
;
***** REVISION OF 8/09/88 - FIX KNOWN ERRORS IN PM FILES     *****
;
***** STEP 1 - SUBSET THE PROFILE FILE AND RESTRUCTURE;
*****          IT TO ONE RECORD PER PROFILE;
*;
DATA K CA MG NA; SET INFILE.PROFILE;
   IF PROF_NO NE .;
   KEEP PROF_NO F1 F2 F3;
* CONVERT PERCENTS TO FRACTIONS;
   F1 = RANGE1/100.00;
   F2 = RANGE2/100.00;
*  USE 0-30 RANGE FOR "TOTAL" WHERE POSSIBLE, OTHERWISE USE;
*  METHODOLOGY IN PM MEMO OF 8/10;
   IF PROF_NO=12704 OR PROF_NO=21102 OR PROF_NO=21103
   OR PROF_NO=21150 OR PROF_NO=21206 OR PROF_NO=23202
   OR PROF_NO=27102 OR PROF_NO=27203 OR PROF_NO=28301
   OR PROF_NO=29305 OR PROF_NO=29306 OR PROF_NO=29307
   OR PROF_NO=41130 OR PROF_NO=42320 OR PROF_NO=42330 THEN DO;
      F3 = RANGE3/100.00;
   END;
   ELSE DO;
      F3 = RANGE4/100.00;
   END;
* CHECK FOR INVALID FRACTIONS;
   IF F1<0 OR F2<0 OR F3<0 THEN DO;
   PUT '*** WARNING - NEGATIVE FRACTION ENCOUNTERED AT ' PROF_NO=;
   PUT RANGE1=  RANGE2=  RANGE4=;
   END;
* DIVIDE INTO 4 FILES USING SPECIES NUMBERS;
   IF SP_NO = 19 THEN OUTPUT K;
   ELSE IF SP_NO = 20 THEN OUTPUT CA;
   ELSE IF SP_NO = 12 THEN OUTPUT MG;
   ELSE IF SP_NO = 11 THEN OUTPUT NA;
*;
* CHANGE FRACTION NAMES TO REPRESENT SPECIES/FRACTION;
```

```
*;                                                                      00000540
DATA K2; SET K;                                                         00000550
   RENAME F1=KF1 F2=KF2 F3=KF3;                                         00000560
DATA CA2; SET CA;                                                       00000570
   RENAME F1=CAF1 F2=CAF2 F3=CAF3;                                      00000580
DATA MG2; SET MG;                                                       00000590
   RENAME F1=MGF1 F2=MGF2 F3=MGF3;                                      00000600
DATA NA2; SET NA;                                                       00000610
   RENAME F1=NAF1 F2=NAF2 F3=NAF3;                                      00000620
*;                                                                      00000630
PROC SORT DATA=K2; BY PROF_NO;                                          00000640
PROC SORT DATA=CA2; BY PROF_NO;                                         00000650
PROC SORT DATA=MG2; BY PROF_NO;                                         00000660
PROC SORT DATA=NA2; BY PROF_NO;                                         00000670
*;                                                                      00000680
* RECOMBINE FILE AND ADD TOTAL PM FRACTIONS;                            00000690
* NOTE - TOTAL PM FRACTIONS ARE 0-2.5, 2.5-6;                           00000700
*        AND 6-10, WHILE SPECIES FRACTIONS;                             00000710
*        ARE 0-2.5, 2.5-10 AND TOTAL SPECIE;                            00000720
* NOTE - FOR 15 PROFILES, 0-10 FRACTION USED AS "TOTAL";                00000730
*        (SEE ABOVE     , LINE 320)                                     00000731
*        ANOTHER 5 HAVE SPECIALIZED DATA DUE TO PROBLEMS;               00000740
*        IDENTIFIED IN ORIGINAL "TOTAL SPECIES" DATA;                   00000750
*;                                                                      00000760
DATA STEP1;                                                             00000770
   MERGE K2 CA2 MG2 NA2;                                                00000780
   BY PROF_NO;                                                          00000790
   TSPF1 = 1.00;                                                        00000800
   TSPF2 = 1.00;                                                        00000810
   TSPF3 = 1.00;                                                        00000820
*;                                                                      00000830
PROC PRINT DATA=STEP1;                                                  00000840
   TITLE "TSP SPECIATION DATA";                                         00000850
   TITLE2 "OUTPUT OF STEP 1";                                           00000860
*;                                                                      00000870
***** STEP 2 - MERGE NEW FILE WITH PM FRACTION FILE CONTAINING SIZE;    00000880
*****          RANGES.  NOTE INPUT RANGES ARE CUMULATIVE;               00000890
*****          SZE1 = 0 - 2.5;                                          00000900
*****          SZE2 = 2.5 - 6;                                          00000910
*****          SZE3 = 6 - 10;                                           00000920
*;                                                                      00000930
DATA FRACTION; SET INFILE.FRACTION;                                     00000940
   IF PROF_NO NE .;                                                     00000950
   KEEP PROF_NO SZE1 SZE2 SZE3;                                         00000960
   SZE1=SIZE1;                                                          00000970
   SZE2=SIZE2-SIZE1;                                                    00000980
   SZE3=SIZE3-SIZE2;                                                    00000990
* CHECK FOR INVALID FRACTIONS;                                          00001000
   IF SIZE1<0 OR SIZE2<0 OR SIZE3<0 THEN DO;                            00001010
   PUT '*** WARNING - NEGATIVE FRACTION ENCOUNTERED AT ' PROF_NO=;      00001020
   PUT SIZE1=  SIZE2=  SIZE3=;                                          00001030
   END;                                                                 00001040
*;                                                                      00001050
```

```
PROC SORT DATA=FRACTION; BY PROF_NO;
*;
* MERGE BY PROFILE NUMBER, MULTIPLY SIZE RANGES OUT;
* AND TAKE CARE OF SPECIAL CASES;
*;
DATA STEP2;
   MERGE STEP1 FRACTION;
   BY PROF_NO;
   DROP SZE1 SZE2 SZE3;
   IF PROF_NO=12704 OR PROF_NO=21102 OR PROF_NO=21103
   OR PROF_NO=21150 OR PROF_NO=21206 OR PROF_NO=23202
   OR PROF_NO=27102 OR PROF_NO=27203 OR PROF_NO=28301
   OR PROF_NO=29305 OR PROF_NO=29306 OR PROF_NO=29307
   OR PROF_NO=41130 OR PROF_NO=42320 OR PROF_NO=42330 THEN DO;
      KF1 = KF1 * SZE1;
      KF2 = KF2 * (SZE2+SZE3);
      KF3 = KF3 * (SZE1+SZE2+SZE3);
      CAF1 = CAF1 * SZE1;
      CAF2 = CAF2 * (SZE2+SZE3);
      CAF3 = CAF3 * (SZE1+SZE2+SZE3);
      MGF1 = MGF1 * SZE1;
      MGF2 = MGF2 * (SZE2+SZE3);
      MGF3 = MGF3 * (SZE1+SZE2+SZE3);
      NAF1 = NAF1 * SZE1;
      NAF2 = NAF2 * (SZE2+SZE3);
      NAF3 = NAF3 * (SZE1+SZE2+SZE3);
      TSPF1 = TSPF1 * SZE1;
      TSPF2 = TSPF2 * SZE2;
      TSPF3 = TSPF3 * SZE3;
   END;
   ELSE DO;
      KF1 = KF1 * SZE1;
      KF2 = KF2 * (SZE2+SZE3);
      CAF1 = CAF1 * SZE1;
      CAF2 = CAF2 * (SZE2+SZE3);
      MGF1 = MGF1 * SZE1;
      MGF2 = MGF2 * (SZE2+SZE3);
      NAF1 = NAF1 * SZE1;
      NAF2 = NAF2 * (SZE2+SZE3);
      TSPF1 = TSPF1 * SZE1;
      TSPF2 = TSPF2 * SZE2;
      TSPF3 = TSPF3 * SZE3;
   END;
*;
* NOW TAKE CARE OF 5 SPECIAL CASES;
*;
DATA STEP2A; SET STEP2;
   IF PROF_NO=22101 THEN DO;
      NAF3=0.01491; MGF3=0.000064; KF3=0.0156; CAF3=0.00211;
   END;
   ELSE IF PROF_NO=22102 THEN DO;
      NAF3=0.09818; MGF3=0.00064; KF3=0.006495; CAF3=0.00254;
   END;
```

```
  ELSE IF PROF_NO=25401 THEN DO;
     NAF3=0.00; MGF3=0.00; KF3=0.001092; CAF3=0.00;
  END;
  ELSE IF PROF_NO=25406 THEN DO;
     NAF3=0.000884; MGF3=0.003042; KF3=0.004233; CAF3=0.001458;
  END;
  ELSE IF PROF_NO=41220 THEN DO;
     NAF3=0.00; MGF3=0.00; KF3=0.021032; CAF3=0.024636;
  END;
PROC PRINT DATA=STEP2A;
   TITLE "TSP SPECIATION DATA";
   TITLE2 "OUTPUT OF STEP 2A";
*;
***** STEP 3 - COMBINE STEP 2A OUTPUT WITH REACTIVE FRACTIONS;
*****          OF SPECIES IN QUESTION;
*;
DATA REACT; SET INFILE.REACT;
   IF K_RCT NE .;
   KEEP PROF_NO K_RCT CA_RCT MG_RCT NA_RCT;
* CHECK FOR INVALID FRACTION DATA;
   IF K_RCT<0 OR CA_RCT<0 OR MG_RCT<0 OR NA_RCT<0 THEN DO;
   PUT '*** WARNING - NEGATIVE FRACTION ENCOUNTERED AT ' PROF_NO=;
   PUT K_RCT= CA_RCT= MG_RCT= NA_RCT=;
   END;
   IF K_RCT>1 OR CA_RCT>1 OR MG_RCT>1 OR NA_RCT>1 THEN DO;
   PUT '*** WARNING - FRACTION EXCEEDING 1 ENCOUNTERED AT ' PROF_NO=;
   PUT K_RCT= CA_RCT= MG_RCT= NA_RCT=;
   END;
*;
PROC SORT DATA=REACT; BY PROF_NO;
*;
*;
DATA OUTFILE.DATA;
   MERGE STEP2A REACT;
   BY PROF_NO;
   DROP K_RCT CA_RCT MG_RCT NA_RCT;
   KF1 = KF1 * K_RCT;
   KF2 = KF2 * K_RCT;
   KF3 = KF3 * K_RCT;
   CAF1 = CAF1 * CA_RCT;
   CAF2 = CAF2 * CA_RCT;
   CAF3 = CAF3 * CA_RCT;
   MGF1 = MGF1 * MG_RCT;
   MGF2 = MGF2 * MG_RCT;
   MGF3 = MGF3 * MG_RCT;
   NAF1 = NAF1 * NA_RCT;
   NAF2 = NAF2 * NA_RCT;
   NAF3 = NAF3 * NA_RCT;
*;
PROC PRINT DATA=OUTFILE.DATA;
   TITLE "CORRECTED TSP SPECIATION DATA";
   TITLE2 "SPECIATION FRACTIONS BY PROFILE (8-09-88)";
*;
*;
/*
```

```
//uuuTSP2 JOB (aaaafffff,Muuu),RW,NOTIFY=uuu,TIME=(,07),PRTY=4
/*ROUTE PRINT HOLD
//TSP2 EXEC SAS
//IN1 DD DSN=[partitioned SAS data set containing PM files],DISP=SHR
//IN2 DD DSN=[intermediate PM species-profile file],DISP=SHR
//OUTFILE DD DSN=[speciation factor file for selected source type],
//       UNIT=DISK,DISP=(NEW,CATLG,DELETE),SPACE=(TRK,(100,20),RLSE),
//       DCB=(LRECL=105,BLKSIZE=21000,RECFM=FB)
//SYSIN DD *
*;
***** 1985 NAPAP INVENTORY TSP SPECIATION FACTOR DEVELOPMENT   *****
*****      PART 2 - CREATION OF EBCDIC SPECIATION FILE         *****
*
***** THIS PROGRAM WILL MERGE THE SPECIES-PROFILE FILE FOR     *****
***** PM WITH THE POINT OR AREA SOURCE SCC-PROFILE ASSIGNMENTS *****
***** OUTPUT THE RESULTING LIST TO EBCDIC FOR USE IN THE       *****
***** FREDS SPECIATION MODULE.                                 *****
;
OPTIONS MISSING=0;
*;
***** REMOVE DUPLICATE SCCS FROM SCC-PROFILE FILE;
*;
PROC SORT DATA=IN1.AREA  OUT=T1; BY SCC;
DATA T2 XTRA; SET T1;
   BY SCC;
   IF FIRST.SCC THEN OUTPUT T2;
   ELSE OUTPUT XTRA;
PROC PRINT DATA=XTRA; TITLE "DUPLICATE SCCS";
PROC SORT DATA=T2 OUT=ONE; BY PROF_NO;
PROC SORT DATA=IN2.DATA OUT=TWO; BY PROF_NO;
DATA TEMP;
   MERGE ONE(IN=IN1) TWO(IN=IN2);
   BY PROF_NO;
   IF IN1;

RUN;

DATA OUT;  SET TEMP;

    CAF1=CAF1*1.0E+08;
    CAF2=CAF2*1.0E+08;
    CAF3=CAF3*1.0E+08;
    MGF1=MGF1*1.0E+08;
    MGF2=MGF2*1.0E+08;
    MGF3=MGF3*1.0E+08;
    KF1=KF1*1.0E+08;
    KF2=KF2*1.0E+08;
    KF3=KF3*1.0E+08;
    NAF1=NAF1*1.0E+08;
    NAF2=NAF2*1.0E+08;
    NAF3=NAF3*1.0E+08;
    TSPF1=TSPF1*1.0E+08;
    TSPF2=TSPF2*1.0E+08;
   TSPF3=TSPF3*1.0E+08;
PROC SORT DATA=OUT; BY SCC;
DATA _NULL_; SET OUT; FILE OUTFILE;
   PUT @14 SCC Z8. CAF1 Z8. CAF2 Z8. CAF3 Z8. MGF1 Z8. MGF2 Z8. MGF3 Z8.
          KF1 Z8. KF2 Z8. KF3 Z8. NAF1 Z8. @;
   PUT @104 '21';
   PUT @ 14 SCC Z8. NAF2 Z8. NAF3 Z8. TSPF1 Z8. TSPF2 Z8. TSPF3 Z8. @;
   PUT @104 '22';
*;
/*
```

APPENDIX G

TSP SPECIATION FACTOR FILES

Table G-1 contains the complete listing of speciation factors for the 15 TSP classes represented in the 1985 NAPAP inventory. Tables G-2 through G-5 are the SCC-profile assignments used to create the TSP Speciation Factor Files input to FREDS. A number of SCC codes appeared to the Canadian point source file after U.S. point sources were processed; these are shown in Table G-3. These SCCs and their profile assignments were added to the U.S. point source profile for use with the Canadian inventory.

TABLE G-1. PARTICULATE SPECIATION FACTORS BY SPECIATION PROFILE

Profile Number	Potassium (0 - 2.5)	Potassium (2.5 - 10)	Potassium (Total)	Calcium (0 - 2.5)	Calcium (2.5 - 10)	Calcium (Total)	Magnesium (0 - 2.5)
0	0.004110	0.00143464	0.010180	0.0050983	0.002285	0.014727	0.00075913
11201	0.003782	0.00545680	0.013789	0.0018266	0.002934	0.007105	0.00000000
11501	0.001128	0.00073340	0.002622	0.0062402	0.010470	0.023535	0.00000000
11801	0.026880	0.00156000	0.088875	0.0067200	0.006240	0.040500	0.00000000
12201	0.001395	0.00012600	0.004111	0.0003763	0.000135	0.001381	0.00139500
12704	0.119805	0.00000000	0.119805	0.0271950	0.000000	0.027195	0.00837900
13501	0.000644	0.00109200	0.002800	0.0018533	0.003143	0.008058	0.00000000
17105	0.001681	0.00053892	0.005841	0.0000580	0.000704	0.002006	0.00000000
17106	0.001300	0.00060000	0.005000	0.0001994	0.000092	0.000767	0.00036920
17120	0.000230	0.00017280	0.000960	0.0012168	0.000913	0.005070	0.00015600
17121	0.000547	0.00013680	0.001710	0.0019840	0.000496	0.006200	0.00022720
17122	0.000214	0.00016020	0.000890	0.0012216	0.000916	0.005090	0.00020640
17123	0.000257	0.00019260	0.001070	0.0021024	0.001577	0.008760	0.00024240
17124	0.000043	0.00005760	0.000180	0.0000552	0.000074	0.000230	0.00000720
19101	0.000000	0.00000000	0.000000	0.0000000	0.000000	0.000000	0.00000000
20101	0.000000	0.00000000	0.000000	0.0000000	0.000000	0.000000	0.00000000
20102	0.000000	0.00000000	0.000000	0.0000000	0.000000	0.000000	0.00000000
20401	0.003250	0.00095000	0.005000	0.0000975	0.000028	0.000150	0.00000325
20501	0.000553	0.00107625	0.003075	0.0002079	0.000404	0.001155	0.00000000
20502	0.000000	0.00000000	0.000000	0.0000000	0.000000	0.000000	0.00000000
21101	0.000000	0.00000000	0.000000	0.0885450	0.163476	0.286430	0.00000000
21102	0.003608	0.00012500	0.003733	0.0090200	0.001050	0.010070	0.00000000
21103	0.003088	0.00041310	0.003501	0.0069862	0.001605	0.008591	0.00000000
21150	0.002452	0.00019350	0.002645	0.0056440	0.001037	0.006681	0.00000000
21203	0.000163	0.00030060	0.000935	0.0020535	0.004113	0.011145	0.00000000
21204	0.000726	0.00088020	0.002595	0.0023565	0.006160	0.022325	0.00000000
21205	0.0002553	0.0000629	0.0003700	0.0044470	0.0010956	0.006445	0.0000000
21206	0.0008280	0.0000323	0.0008604	0.0014283	0.0001368	0.001565	0.0000000
21301	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.000000	0.0000000
21302	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.000000	0.0000000
21303	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.000000	0.0000000
21304	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.000000	0.0000000
21320	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.000000	0.0000000
21340	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.000000	0.0000000
21401	0.0003850	0.0009625	0.0027500	0.0003850	0.0009625	0.002750	0.0000000
21501	0.0005827	0.0010260	0.0032400	0.0069847	0.0134982	0.046225	0.0000000
22101	0.0078000	0.0000000	0.0078000	0.0009750	0.0000815	0.001055	0.0000000
22102	0.0020475	0.0012225	0.0032475	0.0003900	0.0008965	0.001270	0.0000000
22201	0.0000000	0.0000000	0.0000000	0.0000750	0.0000575	0.000250	0.0000000
22202	0.0000585	0.0000489	0.0001685	0.0004680	0.0004075	0.001360	0.0000000
22301	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.000000	0.0000000
23103	0.0000000	0.0000000	0.0000000	0.0004221	0.0000504	0.000810	.
23202	0.0000000	0.0000000	0.0000000	0.0032832	0.0000718	0.003355	.
24101	0.0000000	0.0000000	0.0000000	0.0156000	0.0040000	0.020000	0.0000000
25201	0.0011250	0.0008400	0.0037075	0.0270000	0.0451500	0.136132	0.0021600
25302	0.0066600	0.0063000	0.0244530	0.0085500	0.0225750	0.058726	0.0017100
25401	0.0001529	0.0000000	0.0001529	0.0000000	0.0000000	0.000000	0.0000000
25402	0.0005445	0.0001320	0.0016500	0.0033660	0.0008160	0.010200	0.0000000
25403	0.0000000	0.0000000	0.0000000	0.0007975	0.0004950	0.002750	0.0000000
25404	0.0004950	0.0009625	0.0027500	0.0004950	0.0009625	0.002750	0.0000000
25405	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.000000	0.0000000
25406	0.0015405	0.0005868	0.0021165	0.0002730	0.0004645	0.000729	0.0015210
25407	0.0000000	0.0000000	0.0000000	0.0006599	0.0001354	0.000846	0.0000000
26101	0.0000000	0.0000000	0.0000000	0.0229500	0.0015300	0.025500	0.0000000
26202	0.0001482	0.0001907	0.0004770	0.0000716	0.0001289	0.000258	0.0000000
27102	0.0022932	0.0001008	0.0023940	0.0005440	0.0000239	0.000568	0.0002331

(continued)

TABLE G-1. (Continued)

Profile Number	Potassium (0 - 2.5)	Potassium (2.5 - 10)	Potassium (Total)	Calcium (0 - 2.5)	Calcium (2.5 - 10)	Calcium (Total)	Magnesium (0 - 2.5)
27201	0.0000000	0.0000000	0.0000000	0.0688275	0.0815100	0.256500	0.0000000
27203	0.0000000	0.0000000	0.0000000	0.0608000	0.0199500	0.080750	0.0015360
27501	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.000000	0.0000000
28201	0.0223040	0.0027200	0.0272000	0.0092250	0.0011250	0.011250	0.0000000
28202	0.0216750	0.0020400	0.0255000	0.0063750	0.0006000	0.007500	0.0000000
28301	0.0459000	0.0321300	0.0780297	0.0011137	0.0031500	0.004264	0.0000000
28302	0.0165750	0.0059500	0.0425000	0.0016087	0.0005775	0.004125	0.0000000
28303	0.0276250	0.0008500	0.0425000	0.0026812	0.0000825	0.004125	0.0000000
28304	0.0058650	0.0002346	0.0078200	0.0348750	0.0013950	0.046500	0.0429000
28401	0.0000000	0.0000000	0.0000000	0.0063700	0.0044200	0.013000	0.0000000
28601	0.0265200	0.0054400	0.0340000	0.0032175	0.0006600	0.004125	0.0000000
29101	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.000000	0.0000000
29102	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.000000	0.0000000
29202	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.000000	0.0000000
29203	0.0001899	0.0003692	0.0010550	0.0006750	0.0013125	0.003750	0.0000000
29301	0.0173221	0.0025044	0.0208700	0.0107900	0.0015600	0.013000	0.0000000
29302	0.0059137	0.0027237	0.0104650	0.0015675	0.0006750	0.002740	0.0000000
29303	0.0015675	0.0008888	0.0028300	0.0005700	0.0004350	0.001125	0.0000000
29304	0.0036449	0.0003705	0.0042800	0.0106600	0.0025000	0.015640	0.0000000
29305	0.0066148	0.0021257	0.0087406	0.0014250	0.0007250	0.002150	0.0000000
29306	0.0038909	0.0004170	0.0043079	0.0020500	0.0005000	0.002550	0.0000000
29307	0.0004374	0.0002371	0.0006747	0.0024300	0.0009860	0.003416	0.0000000
29309	0.0000870	0.00013200	0.0002500	0.00021750	0.00110000	0.002500	0.00000000
29330	0.0027462	0.00072930	0.0038065	0.00379500	0.00210000	0.006421	0.00000000
31101	0.0000000	0.00000000	0.0000000	0.00000000	0.00000000	0.000000	0.00000000
31102	0.0000000	0.00000000	0.0000000	0.00000000	0.00000000	0.000000	0.00000000
31201	0.0000000	0.00000000	0.0000000	0.00000000	0.00000000	0.000000	0.00000000
31230	0.0000000	0.00000000	0.0000000	0.00000000	0.00000000	0.000000	0.00000000
32101	0.0000000	0.00000000	0.0000000	0.00000000	0.00000000	0.000000	0.00000000
32202	0.0000000	0.00000000	0.0000000	0.00000000	0.00000000	0.000000	0.00000000
33001	0.0000000	0.00000000	0.0000000	0.00000000	0.00000000	0.000000	0.00000000
33002	0.0000000	0.00000000	0.0000000	0.00000000	0.00000000	0.000000	0.00000000
33003	0.0000000	0.00000000	0.0000000	0.00000000	0.00000000	0.000000	0.00000000
33020	0.0000000	0.00000000	0.0000000	0.00000000	0.00000000	0.000000	0.00000000
34001	0.0000000	0.00000000	0.0000000	0.00000000	0.00000000	0.000000	0.00000000
34002	0.0000000	0.00000000	0.0000000	0.00000000	0.00000000	0.000000	0.00000000
41101	0.0000000	0.00000000	0.0000000	0.00212500	0.00161500	0.008500	0.00125000
41102	0.0000000	0.00000000	0.0000000	0.00411250	0.00312550	0.016450	0.00000000
41103	0.0000000	0.00000000	0.0000000	0.00300000	0.00266000	0.012863	0.00275000
41104	0.0000000	0.00000000	0.0000000	0.00492125	0.00388645	0.020017	0.00000000
41105	0.0000000	0.00000000	0.0000000	0.00732375	0.00662435	0.027915	0.00000000
41106	0.0000000	0.00000000	0.0000000	0.00312500	0.00228000	0.012284	0.00250000
41107	0.0000000	0.00000000	0.0000000	0.00305000	0.00285000	0.013409	0.00162500
41109	0.0000000	0.00000000	0.0000000	0.00393750	0.00759050	0.026200	0.00000000
41110	0.0000000	0.00000000	0.0000000	0.00098750	0.00075050	0.003950	0.00233750
41130	0.0000000	0.00000000	0.0000000	0.00284700	0.00313823	0.005985	0.00104625
41201	0.0000000	0.00000000	0.0000000	0.00513000	0.00866020	0.018799	0.00000000
41203	0.0000000	0.00000000	0.0000000	0.00169200	0.00359265	0.007157	0.00000000
41204	0.0000000	0.00000000	0.0000000	0.0092910	0.0037943	0.019270	0.0000000
41220	0.0000000	0.00000000	0.0000000	0.0053710	0.0069466	0.012318	0.0000000
41301	0.0000000	0.00000000	0.0000000	0.0010007	0.0030021	0.050035	0.0000000
41302	0.0000000	0.00000000	0.0000000	0.0000864	0.0002592	0.004320	0.0001280
41303	0.0000000	0.00000000	0.0000000	0.0002500	0.0007500	0.012500	0.0000400
41304	0.0000000	0.00000000	0.0000000	0.0001230	0.0006090	0.010150	0.0000000
41305	0.0000000	0.00000000	0.0000000	0.0007000	0.0021000	0.035000	0.0000000
41306	0.0000000	0.00000000	0.0000000	0.0001800	0.0005190	0.008737	0.0002000

(continued) -

TABLE G-1. (Continued)

Profile Number	Potassium (0 - 2.5)	Potassium (2.5 - 10)	Potassium (Total)	Calcium (0 - 2.5)	Calcium (2.5 - 10)	Calcium (Total)	Magnesium (0 - 2.5)
41307	0.0000000	0.00000000	0.0000000	0.0001800	0.0005190	0.008737	0.0002000
41308	0.0000000	0.00000000	0.0000000	0.0015195	0.0045585	0.075975	0.0000000
41309	0.0000000	0.00000000	0.0000000	0.0007225	0.0021675	0.036125	0.0000000
41310	0.0000000	0.00000000	0.0000000	0.0003998	0.0011994	0.019990	0.0000000
41311	0.0000000	0.00000000	0.0000000	0.0025808	0.0077424	0.129040	0.0000000
41312	0.0000000	0.00000000	0.0000000	0.0020428	0.0061284	0.102140	0.0000000
41313	0.0000000	0.00000000	0.0000000	0.0000795	0.0002385	0.003975	0.0001866
41314	0.0000000	0.00000000	0.0000000	0.0001268	0.0003804	0.006340	0.0000904
41315	0.0000000	0.00000000	0.0000000	0.0001800	0.0005400	0.009000	0.0000600
41316	0.0000000	0.00000000	0.0000000	0.0001500	0.0004500	0.007500	0.0001400
41318	0.0000000	0.00000000	0.0000000	0.0001800	0.0005400	0.009000	0.0001900
41319	0.0000000	0.00000000	0.0000000	0.0000930	0.0004200	0.006412	0.0001760
41320	0.0000000	0.00000000	0.0000000	0.0001800	0.0005400	0.009000	0.0001900
41350	0.0000000	0.00000000	0.0000000	0.0000843	0.0016552	0.026284	0.0000716
41401	0.0000000	0.00000000	0.0000000	0.0000000	0.0000000	0.000000	0.0000000
42101	0.0073500	0.00000000	0.0075000	0.0000000	0.0000000	0.000000	0.0000000
42102	0.0588000	0.00000000	0.0600000	0.0000000	0.0000000	0.000000	0.0000000
42103	0.0565950	0.00000000	0.0577500	0.0000000	0.0000000	0.000000	0.0000000
42201	0.0044541	0.00000000	0.0045450	0.0000000	0.0000000	0.0000000	0.0000000
42202	0.0075705	0.00000000	0.0077250	0.0000000	0.0000000	0.0000000	0.0000000
42301	0.0029835	0.00029835	0.0033150	0.0048127	0.0004813	0.0053475	0.0000000
42302	0.0041850	0.00084375	0.0050797	0.0058590	0.0037125	0.0096682	0.0000000
42303	0.0063210	0.00000000	0.0064500	0.0004924	0.0000000	0.0005025	0.0005365
42304	0.0398250	0.00398250	0.0442500	0.0027000	0.0002700	0.0030000	0.0000000
42320	0.0156647	0.00170822	0.0173730	0.0044570	0.0014879	0.0059452	0.0000000
42330	0.0192864	0.00000000	0.0192864	0.0001235	0.0000000	0.0001235	0.0001338
43101	0.0000000	0.00000000	0.0000000	0.0000840	0.0004032	0.0005600	0.0002880
43201	0.0000000	0.00000000	0.0000000	0.0007497	0.0013923	0.0107100	0.0003780
43301	0.0000000	0.00000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
43302	0.0000000	0.00000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0002760
43303	0.0000000	0.00006400	0.0160000	0.0000000	0.0000857	0.0214200	0.0000000
90001	0.0031250	0.00187500	0.0125000	0.0004794	0.0002876	0.0019175	0.0008875
90002	0.0030362	0.00131332	0.0056125	0.0040434	0.0042237	0.0180500	0.0006959
90003	0.0003850	0.00096250	0.0027500	0.0003850	0.0009625	0.0027500	0.0000000
90004	0.0130000	0.00200000	0.0250000	0.0014300	0.0002200	0.0027500	0.0000000
90005	0.0045441	0.00098023	0.0054415	0.0044243	0.0016019	0.0068045	0.0000000
90006	0.0023145	0.00474390	0.0131775	0.0005711	0.0017401	0.0048335	0.0000000
90007	0.0086022	0.00260311	0.0146820	0.0036325	0.0017152	0.0071370	0.0004141
90008	0.0048630	0.00164556	0.0098045	0.0027570	0.0009701	0.0055585	0.0013437
90009	0.0174652	0.00271125	0.0264625	0.0050803	0.0009410	0.0076975	0.0000000
90010	0.0129425	0.00139500	0.0155000	0.0052187	0.0005625	0.0062500	0.0000000
90011	0.0094095	0.00116850	0.0123000	0.0129094	0.0016031	0.0168750	0.0124312
90012	0.0004590	0.00052500	0.0031750	0.0067815	0.0115369	0.0648500	0.0007155
90013	0.0019462	0.00123693	0.0047610	0.0146917	0.0107932	0.0540625	0.0004880
90014	0.00004275	0.00000877	0.000095	0.00566550	0.00038662	0.0125900	0.000000000
90015	0.00813363	0.00231006	0.023950	0.00071936	0.00027528	0.0021630	0.000154584
90016	0.00000000	0.00000000	0.000000	0.00630898	0.00280073	0.0160425	0.000589392

(continued)

TABLE G-1. (Continued)

Profile Number	Magnesium (2.5 - 10)	Magnesium (Total)	Sodium (0 - 2.5)	Sodium (2.5 - 10)	Sodium (Total)	TSP (0 - 2.5)	TSP (2.5 - 6)	TSP (6 - 10)
0	0.00029910	0.0019645	0.003222	0.0012853	0.007036	0.39	0.095	0.068
11201	0.00000000	0.0000000	0.000000	0.0000000	0.000000	0.29	0.210	0.170
11501	0.00000000	0.0000000	0.000000	0.0000000	0.000000	0.52	0.060	0.130
11801	0.00055200	0.0017250	0.004080	0.0008280	0.015337	0.16	0.110	0.050
12201	0.00007200	0.0039650	0.010726	0.0004920	0.030319	0.31	0.030	0.030
12704	0.00000000	0.0083790	0.053361	0.0000000	0.053361	0.98	0.000	0.000
13501	0.00000000	0.0000000	0.008050	0.0136500	0.035000	0.23	0.210	0.180
17105	0.00000000	0.0000000	0.000000	0.0000000	0.000000	0.26	0.050	0.070
17106	0.00017040	0.0014200	0.002483	0.0011460	0.009550	0.26	0.050	0.070
17120	0.00011700	0.0006500	0.000338	0.0002538	0.001410	0.24	0.080	0.100
17121	0.00005680	0.0007100	0.000883	0.0002208	0.002760	0.32	0.030	0.050
17122	0.00015480	0.0008600	0.000137	0.0001026	0.000570	0.24	0.080	0.100
17123	0.00018180	0.0010100	0.000470	0.0003528	0.001960	0.24	0.080	0.100
17124	0.00000960	0.0000300	0.000082	0.0001088	0.000340	0.24	0.130	0.190
19101	0.00000000	0.0000000	0.000000	0.0000000	0.000000	0.24	0.080	0.100
20101	0.00000000	0.0000000	0.000000	0.0000000	0.000000	0.50	0.030	0.070
20102	0.00000000	0.0000000	0.000000	0.0000000	0.000000	0.82	0.070	0.030
20401	0.00000095	0.0000050	0.009750	0.0028500	0.015000	0.65	0.130	0.060
20501	0.00000000	0.0000000	0.000000	0.0000000	0.000000	0.18	0.190	0.160
20502	0.00000000	0.0000000	0.000000	0.0000000	0.000000	0.18	0.190	0.160
21101	0.00000000	0.0000000	0.000000	0.0000000	0.000000	0.30	0.320	0.230
21102	0.00000000	0.0000000	0.000000	0.0000000	0.000000	0.82	0.070	0.030
21103	0.00000000	0.0000000	0.000000	0.0000000	0.000000	0.69	0.110	0.060
21150	0.00000000	0.0000000	0.000000	0.0000000	0.000000	0.73	0.100	0.050
21203	0.00000000	0.0000000	0.000000	0.0000000	0.000000	0.15	0.190	0.170
21204	0.00000000	0.0000000	0.000000	0.0000000	0.000000	0.15	0.190	0.170
21205	0.00000000	0.0000000	0.000000	0.0000000	0.000000	0.69	0.110	0.060
21206	0.00000000	0.0000000	0.000000	0.0000000	0.000000	0.69	0.110	0.060
21301	0.00000000	0.0000000	0.000000	0.0000000	0.000000	0.15	0.190	0.170
21302	0.00000000	0.0000000	0.000000	0.0000000	0.000000	0.15	0.190	0.170
21303	0.00000000	0.0000000	0.000000	0.0000000	0.000000	0.15	0.190	0.170
21304	0.00000000	0.0000000	0.000000	0.0000000	0.000000	0.15	0.190	0.170
21320	0.00000000	0.0000000	0.000000	0.0000000	0.000000	0.15	0.190	0.170
21340	0.00000000	0.0000000	0.000000	0.0000000	0.000000	0.15	0.190	0.170
21401	0.00000000	0.0000000	0.000000	0.0000000	0.000000	0.14	0.170	0.180
21501	0.00000000	0.0000000	0.000000	0.0000000	0.000000	0.15	0.190	0.170
22101	0.00003260	0.0000320	0.007215	0.0002445	0.007455	0.39	0.095	0.068
22102	0.00032600	0.0003200	0.035490	0.0138550	0.049090	0.39	0.095	0.068
22201	0.00000000	0.0000000	0.000000	0.0000000	0.000000	0.30	0.130	0.100
22202	0.00000000	0.0000000	0.000468	0.0001956	0.001200	0.39	0.095	0.068
22301	0.00000000	0.0000000	0.000000	0.0000000	0.000000	0.18	0.190	0.160
23103	.	.	0.008492	0.0010140	0.013370	0.67	0.050	0.030
23202	.	.	0.347616	0.0076041	0.355220	0.96	0.020	0.001
24101	0.00000000	0.0000000	0.000975	0.0002500	0.001250	0.78	0.100	0.100
25201	0.00218750	0.0082030	0.000828	0.0007525	0.002982	0.18	0.190	0.160
25302	0.00420000	0.0111510	0.000000	0.0000000	0.000000	0.18	0.190	0.160
25401	0.00000000	0.0000000	0.000000	0.0000000	0.000000	0.39	0.095	0.068
25402	0.00000000	0.0000000	0.000000	0.0000000	0.000000	0.33	0.050	0.030
25403	0.00000000	0.0000000	0.000000	0.0000000	0.000000	0.29	0.090	0.090
25404	0.00000000	0.0000000	0.000000	0.0000000	0.000000	0.18	0.190	0.160
25405	0.00000000	0.0000000	0.000000	0.0000000	0.000000	0.03	0.040	0.040
25406	0.00000000	0.0015210	0.000234	0.0002119	0.000442	0.39	0.095	0.068
25407	0.00000000	0.0000000	0.0000000	0.0000000	0.000000	0.78	0.130	0.030
26101	0.00000000	0.0000000	0.0000000	0.0000000	0.000000	0.90	0.030	0.030
26202	0.00000000	0.0000000	0.0000000	0.0000000	0.000000	0.39	0.095	0.068
27102	0.00001025	0.0002434	0.0163072	0.0007168	0.017024	0.91	0.020	0.020

(continued)

TABLE G-1. (Continued)

Profile Number	Magnesium (2.5 - 10)	Magnesium (Total)	Sodium (0 - 2.5)	Sodium (2.5 - 10)	Sodium (Total)	TSP (0 - 2.5)	TSP (2.5 - 6)	TSP (6 - 10)
27201	0.00000000	0.0000000	0.0000000	0.0000000	0.000000	0.45	0.340	0.050
27203	0.00050400	0.0020400	0.0000000	0.0000000	0.000000	0.64	0.200	0.010
27501	0.00000000	0.0000000	0.0000000	0.0000000	0.000000	0.18	0.190	0.160
28201	0.00000000	0.0000000	0.0160720	0.0019600	0.019600	0.82	0.070	0.030
28202	0.00000000	0.0000000	0.0108290	0.0010192	0.012740	0.85	0.070	0.010
28301	0.00000000	0.0000000	0.0000000	0.0000000	0.000000	0.27	0.330	0.090
28302	0.00000000	0.0000000	0.0000000	0.0000000	0.000000	0.39	0.110	0.030
28303	0.00000000	0.0000000	0.0000000	0.0000000	0.000000	0.65	0.010	0.010
28304	0.00171600	0.0572000	0.0092610	0.0003704	0.012348	0.75	0.010	0.020
28401	0.00000000	0.0000000	0.0151900	0.0105400	0.031000	0.49	0.180	0.160
28601	0.00000000	0.0000000	0.0000000	0.0000000	0.000000	0.78	0.130	0.030
29101	0.00000000	0.0000000	0.0000000	0.0000000	0.000000	0.40	0.120	0.060
29102	0.00000000	0.0000000	0.0000000	0.0000000	0.000000	0.40	0.120	0.060
29202	0.00000000	0.0000000	0.0000000	0.0000000	0.000000	0.84	0.140	0.010
29203	0.00000000	0.0000000	0.0000000	0.0000000	0.000000	0.18	0.190	0.160
29301	0.00000000	0.0000000	0.0000000	0.0000000	0.000000	0.83	0.080	0.040
29302	0.00000000	0.0000000	0.0000000	0.0000000	0.000000	0.57	0.150	0.100
29303	0.00000000	0.0000000	0.0000000	0.0000000	0.000000	0.57	0.150	0.140
29304	0.00000000	0.0000000	0.0000000	0.0000000	0.000000	0.82	0.070	0.030
29305	0.00000000	0.0000000	0.0000000	0.0000000	0.000000	0.57	0.150	0.140
29306	0.00000000	0.0000000	0.0000000	0.0000000	0.000000	0.82	0.070	0.030
29307	0.00000000	0.0000000	0.0000000	0.0000000	0.000000	0.81	0.110	0.060
29309	0.00000000	0.00000000	0.00000000	0.000000000	0.0000000	0.87	0.070	0.040
29330	0.00000000	0.00000000	0.00000000	0.000000000	0.0000000	0.69	0.110	0.090
31101	0.00000000	0.00000000	0.00000000	0.000000000	0.0000000	0.45	0.130	0.060
31102	0.00000000	0.00000000	0.00000000	0.000000000	0.0000000	0.45	0.130	0.060
31201	0.00000000	0.00000000	0.00000000	0.000000000	0.0000000	0.89	0.040	0.040
31230	0.00000000	0.00000000	0.00000000	0.000000000	0.0000000	0.67	0.080	0.050
32101	0.00000000	0.00000000	0.00000000	0.000000000	0.0000000	0.92	0.040	0.040
32202	0.00000000	0.00000000	0.00000000	0.000000000	0.0000000	0.92	0.040	0.040
33001	0.00000000	0.00000000	0.00000000	0.000000000	0.0000000	0.67	0.080	0.050
33002	0.00000000	0.00000000	0.00000000	0.000000000	0.0000000	0.75	0.070	0.050
33003	0.00000000	0.00000000	0.00000000	0.000000000	0.0000000	0.67	0.080	0.050
33020	0.00000000	0.00000000	0.00000000	0.000000000	0.0000000	0.69	0.080	0.050
34001	0.00000000	0.00000000	0.00000000	0.000000000	0.0000000	0.39	0.095	0.068
34002	0.00000000	0.00000000	0.00000000	0.000000000	0.0000000	0.39	0.095	0.068
41101	0.00095000	0.00500000	0.00000000	0.000000000	0.0000000	0.25	0.120	0.070
41102	0.00000000	0.00000000	0.00000000	0.000000000	0.0000000	0.25	0.120	0.070
41103	0.00152000	0.00970450	0.00000000	0.000000000	0.0000000	0.25	0.120	0.070
41104	0.00000000	0.00000000	0.00000000	0.000000000	0.0000000	0.25	0.120	0.070
41105	0.00000000	0.00000000	0.00000000	0.000000000	0.0000000	0.25	0.120	0.070
41106	0.00180500	0.00978400	0.00000000	0.000000000	0.0000000	0.25	0.120	0.070
41107	0.00146300	0.00701800	0.00000000	0.000000000	0.0000000	0.25	0.120	0.070
41109	0.00000000	0.00000000	0.00000000	0.000000000	0.0000000	0.25	0.120	0.070
41110	0.00177650	0.00935000	0.00000000	0.000000000	0.0000000	0.25	0.120	0.070
41130	0.00075145	0.00179762	0.00000000	0.000000000	0.0000000	0.25	0.120	0.070
41201	0.00000000	0.00000000	0.00000000	0.000000000	0.0000000	0.30	0.290	0.140
41203	0.00000000	0.00000000	0.00000000	0.000000000	0.0000000	0.30	0.290	0.140
41204	0.00000000	0.0000000	0.0000000	0.00000000	0.0000000	0.300	0.120	0.070
41220	0.00000000	0.0000000	0.0000000	0.00000000	0.0000000	0.300	0.290	0.140
41301	0.00000000	0.0000000	0.0000000	0.00000000	0.0000000	0.020	0.020	0.040
41302	0.00038400	0.0064000	0.0000000	0.00000000	0.0000000	0.020	0.020	0.040
41303	0.00012000	0.0020000	0.0000000	0.00000000	0.0000000	0.020	0.020	0.040
41304	0.00000000	0.0000000	0.0000000	0.00000000	0.0000000	0.020	0.020	0.040
41305	0.00000000	0.0000000	0.0000000	0.00000000	0.0000000	0.020	0.020	0.040
41306	0.00057000	0.0096250	0.0000000	0.00000000	0.0000000	0.020	0.020	0.040

(continued)

TABLE G-1. (Continued)

Profile Number	Magnesium (2.5 - 10)	Magnesium (Total)	Sodium (0 - 2.5)	Sodium (2.5 - 10)	Sodium (Total)	TSP (0 - 2.5)	TSP (2.5 - 6)	TSP (6 - 10)
41307	0.00057000	0.0096250	0.0000000	0.00000000	0.0000000	0.020	0.020	0.040
41308	0.00000000	0.0000000	0.0000000	0.00000000	0.0000000	0.020	0.020	0.040
41309	0.00000000	0.0000000	0.0000000	0.00000000	0.0000000	0.020	0.020	0.040
41310	0.00000000	0.0000000	0.0000000	0.00000000	0.0000000	0.020	0.020	0.040
41311	0.00000000	0.0000000	0.0000000	0.00000000	0.0000000	0.020	0.020	0.040
41312	0.00000000	0.0000000	0.0000000	0.00000000	0.0000000	0.020	0.020	0.040
41313	0.00055980	0.0093300	0.0000000	0.00000000	0.0000000	0.020	0.020	0.040
41314	0.00027120	0.0045200	0.0000000	0.00000000	0.0000000	0.020	0.020	0.040
41315	0.00018000	0.0030000	0.0000000	0.00000000	0.0000000	0.020	0.020	0.040
41316	0.00042000	0.0070000	0.0000000	0.00000000	0.0000000	0.020	0.020	0.040
41318	0.00045000	0.0080000	0.0000000	0.00000000	0.0000000	0.020	0.020	0.040
41319	0.00036000	0.0067000	0.0000000	0.00000000	0.0000000	0.020	0.020	0.040
41320	0.00045000	0.0080000	0.0000000	0.00000000	0.0000000	0.020	0.020	0.040
41350	0.00017787	0.0006315	0.0000000	0.00000000	0.0000000	0.020	0.020	0.040
41401	0.00000000	0.0000000	0.0000000	0.00000000	0.0000000	0.250	0.120	0.070
42101	0.00000000	0.0000000	0.0000000	0.00000000	0.0000000	0.980	0.000	0.000
42102	0.00000000	0.0000000	0.0000000	0.00000000	0.0000000	0.980	0.000	0.000
42103	0.00000000	0.0000000	0.0000000	0.00000000	0.0000000	0.980	0.000	0.000
42201	0.00000000	0.0000000	0.0000000	0.00000000	0.0000000	0.980	0.000	0.000
42202	0.00000000	0.0000000	0.0000000	0.00000000	0.0000000	0.980	0.000	0.000
42301	0.00000000	0.0000000	0.0004522	0.00004522	0.0005025	0.900	0.060	0.030
42302	0.00000000	0.0000000	0.0006480	0.00000000	0.0006547	0.900	0.060	0.030
42303	0.00000000	0.0005475	0.0006100	0.00000000	0.0006225	0.980	0.000	0.000
42304	0.00000000	0.0000000	0.0016200	0.00016200	0.0018000	0.900	0.060	0.030
42320	0.00000000	0.0000000	0.0009065	0.00006905	0.0009756	0.900	0.060	0.030
42330	0.00000000	0.0001338	0.0001529	0.00000000	0.0001529	0.980	0.000	0.000
43101	0.00138240	0.0019200	0.0000000	0.00000000	0.0000000	0.150	0.360	0.360
43201	0.00070200	0.0054000	0.0000049	0.00000910	0.0000700	0.070	0.070	0.060
43301	0.00000000	0.0000000	0.0000000	0.00000000	0.0000000	0.390	0.095	0.068
43302	0.00046800	0.0012000	0.0000000	0.00000000	0.0000000	0.230	0.210	0.180
43303	0.00006000	0.0150000	0.0000000	0.00001360	0.0034000	0.000	0.001	0.003
90001	0.00053250	0.0035500	0.0059687	0.00358125	0.0238750	0.250	0.065	0.085
90002	0.00070200	0.0030000	0.0000000	0.00000000	0.0000000	0.293	0.137	0.097
90003	0.00000000	0.0000000	0.0000000	0.00000000	0.0000000	0.140	0.170	0.180
90004	0.00000000	0.0000000	0.0000000	0.00000000	0.0000000	0.520	0.060	0.020
90005	0.00000000	0.0000000	0.0000000	0.00000000	0.0000000	0.735	0.104	0.070
90006	0.00000000	0.0000000	0.0000000	0.00000000	0.0000000	0.150	0.190	0.170
90007	0.00015587	0.0007370	0.0032046	0.00115423	0.0018945	0.551	0.133	0.082
90008	0.00044969	0.0027090	0.0015624	0.00052290	0.0031500	0.496	0.097	0.069
90009	0.00000000	0.0000000	0.0000000	0.00000000	0.0000000	0.660	0.050	0.050
90010	0.00000000	0.0000000	0.0068887	0.00074250	0.0082500	0.835	0.070	0.020
90011	0.00154375	0.0162500	0.0024097	0.00029925	0.0031500	0.765	0.070	0.025
90012	0.00054687	0.0050750	0.0002340	0.00030187	0.0013750	0.090	0.095	0.080
90013	0.00018328	0.0009225	0.0021849	0.00172857	0.0002500	0.298	0.152	0.089
90014	0.000000000	0.0000000	0.0000000	0.00000000	0.0000000	0.450	0.015	0.015
90015	0.000077486	0.0004560	0.0182636	0.00540600	0.0537875	0.339	0.059	0.047
90016	0.000242952	0.0012685	0.0049901	0.00209995	0.0088920	0.431	0.115	0.076

TABLE G-2. TSP SCC-PROFILE ASSIGNMENTS, U.S. POINT SOURCES

SCC	PROFILE
10100101	11201
10100102	11201
10100201	11201
10100202	11201
10100203	11201
10100204	11201
10100205	11201
10100212	11201
10100217	11201
10100221	11201
10100222	11201
10100223	11201
10100224	11201
10100225	11201
10100226	11201
10100301	11201
10100302	11201
10100303	11201
10100304	11201
10100306	11201
10100401	11501
10100404	11501
10100405	11501
10100406	11501
10100501	11501
10100504	11501
10100505	11501
10100601	26101
10100602	26101
10100604	26101
10100701	26101
10100702	26101
10100801	11201
10100901	11801
10100902	11801
10100903	11801
10101001	26101
10101002	26101
10101101	11801
10101201	17106
10101301	17120
10101302	13501
10200101	11201
10200104	11201
10200107	11201
10200201	11201
10200202	11201
10200203	11201
10200204	11201
10200205	11201
10200206	11201
10200210	11201
10200212	11201
10200213	12201
10200217	11201
10200219	11201
10200221	11201
10200222	11201
10200223	11201
10200224	11201
10200225	11201
10200226	11201
10200229	11201
10200301	11201
10200302	11201
10200303	11201
10200304	11201
10200306	11201
10200307	11201
10200401	13501
10200402	13501
10200403	13501
10200404	13501
10200405	13501
10200501	13501
10200502	13501
10200503	13501
10200504	13501
10200505	13501
10200601	26101
10200602	26101
10200603	26101
10200604	26101
10200701	26101
10200704	26101
10200707	26101
10200710	26101
10200799	26101
10200802	11201
10200804	11201
10200901	12704
10200902	12704
10200903	12704
10200904	12704
10200905	12704
10200906	12704
10200907	12704
10201001	26101
10201002	26101
10201101	11801
10201201	17106
10201301	17120
10201302	13501
10201401	26101
10201402	26101
10201403	13501
10201404	13501
10300101	11201
10300102	11201
10300103	11201
10300205	11201
10300206	11201
10300207	11201
10300208	11201
10300209	11201
10300211	11201
10300214	11201
10300216	11201
10300217	11201
10300221	11201
10300222	11201
10300223	11201
10300224	11201
10300225	11201
10300226	11201
10300305	11201
10300306	11201
10300307	11201
10300309	11201
10300401	13501
10300402	13501
10300403	13501
10300404	13501
10300501	13501
10300502	13501
10300503	43201
10300504	13501
10300601	26101
10300602	26101
10300603	26101
10300701	26101
10300799	26101
10300901	12704
10300902	12704
10300903	12704
10301001	26101
10301002	26101
10301201	17106
10301301	17120
10301302	13501

(continued)

TABLE G-2. (continued)

SCC	PROFILE	SCC	PROFILE	SCC	PROFILE
10301303	17120	28888802	34001	30101021	90002
10500102	11201	28888803	34001	30101022	90002
10500105	13501	30100101	90002	30101023	90002
10500106	26101	30100102	0	30101030	90002
10500110	26101	30100103	0	30101099	90002
10500202	11201	30100104	0	30101101	90002
10500205	13501	30100105	90002	30101198	90002
10500206	26101	30100106	90002	30101199	90002
10500209	12704	30100107	90002	30101202	0
10500210	26101	30100108	90002	30101203	90002
20100101	34001	30100109	90002	30101204	90002
20100102	34001	30100180	90002	30101205	90002
20100201	34001	30100199	90002	30101206	90002
20100202	34001	30100305	90002	30101299	90002
20100702	34001	30100306	90002	30101301	90002
20100901	34001	30100307	90002	30101302	90002
20100902	34001	30100308	0	30101303	90002
20101001	34001	30100309	0	30101304	90002
20200101	34001	30100399	90002	30101399	90002
20200102	34001	30100410	90002	30101401	90002
20200103	34001	30100501	90002	30101402	90002
20200104	34001	30100502	0	30101499	90002
20200201	34001	30100503	90002	30101501	90002
20200202	34001	30100504	90002	30101502	90002
20200203	34001	30100506	90002	30101503	90002
20200204	34001	30100507	90002	30101505	90002
20200301	34001	30100508	90002	30101599	90002
20200401	34001	30100509	90002	30101601	0
20200402	34001	30100599	90002	30101602	0
20200403	34001	30100601	25302	30101603	0
20200501	34001	30100603	25302	30101699	0
20200901	34001	30100604	25302	30101702	90002
20200902	34001	30100605	90002	30101703	90002
20201001	34001	30100699	90002	30101704	90002
20201002	34001	30100799	0	30101705	90002
20300101	34001	30100801	90002	30101706	90002
20300102	34001	30100802	90002	30101707	90002
20300201	34001	30100803	0	30101708	90002
20300202	34001	30100804	0	30101799	90002
20300301	34001	30100805	0	30101801	90002
20301001	34001	30100899	90002	30101802	90002
20301002	34001	30100901	90002	30101803	90002
20400101	34001	30100902	90002	30101805	90002
20400102	34001	30100910	90002	30101807	90002
20400201	34001	30100999	90002	30101808	90002
20400301	34001	30101011	90002	30101809	90002
20400302	34001	30101012	90002	30101810	90002
20400401	34001	30101013	90002	30101811	90002
20400402	34001	30101014	90002	30101812	90002
28888801	34001	30101015	90002	30101813	90002

(continued)

TABLE G-2. (continued)

SCC	PROFILE
30101814	90002
30101815	90002
30101816	90002
30101817	90002
30101818	90002
30101819	90002
30101820	90002
30101821	90002
30101822	90002
30101827	90002
30101832	90002
30101837	90002
30101838	90002
30101839	0
30101840	0
30101842	90002
30101847	90002
30101849	90002
30101852	90002
30101860	90002
30101861	90002
30101863	90002
30101864	90002
30101865	90002
30101866	90002
30101870	90002
30101871	90002
30101872	90002
30101880	90002
30101881	90002
30101882	90002
30101883	90002
30101884	90002
30101885	90002
30101890	90002
30101891	90002
30101892	90002
30101893	90002
30101894	90002
30101899	90002
30101901	90002
30101902	90002
30101904	90002
30101905	90002
30101906	90002
30101907	90002
30102001	0
30102002	0
30102003	0
30102004	0
30102005	90002
30102099	90002
30102101	0
30102102	90002
30102103	90002
30102104	90002
30102105	90002
30102106	90002
30102107	90002
30102108	90002
30102110	27501
30102111	90002
30102112	90002
30102113	90002
30102120	90002
30102199	90002
30102201	90002
30102301	90002
30102304	90002
30102306	90002
30102308	90002
30102310	90002
30102312	90002
30102314	90002
30102316	90002
30102318	90002
30102319	90002
30102320	90002
30102321	90002
30102322	90002
30102399	90002
30102401	90002
30102402	90002
30102405	90002
30102410	90002
30102414	90002
30102415	90002
30102416	90002
30102421	90002
30102422	90002
30102423	90002
30102424	90002
30102425	90002
30102426	90002
30102427	90002
30102499	90002
30102501	90002
30102505	90002
30102599	90002
30102601	90002
30102602	90002
30102608	90002
30102609	90002
30102610	90002
30102611	90002
30102612	90002
30102613	90002
30102614	90002
30102615	90002
30102616	90002
30102617	90002
30102625	90002
30102630	90002
30102699	90002
30102701	90002
30102704	90002
30102705	90002
30102706	90002
30102707	90002
30102708	90002
30102709	90002
30102710	90002
30102711	90002
30102712	90002
30102713	90002
30102714	90002
30102717	90002
30102718	90002
30102720	90002
30102721	90002
30102722	90002
30102723	90002
30102724	90002
30102725	90002
30102727	90002
30102728	90002
30102729	90002
30102730	90002
30102801	90002
30102803	90002
30102804	90002
30102805	90002
30102806	90002
30102807	90002
30102820	90002
30102821	90002
30102822	90002
30102823	90002
30102824	90002
30102825	90002

(continued)

TABLE G-2. (continued)

SCC	PROFILE
30102903	90002
30102904	90002
30102905	90002
30102906	90002
30102907	90002
30102908	90002
30102920	90002
30102921	90002
30102922	90002
30102923	90002
30102924	90002
30102925	90002
30103001	90002
30103002	90002
30103003	90002
30103004	90002
30103020	90002
30103021	90002
30103022	90002
30103023	90002
30103024	90002
30103025	90002
30103099	90002
30103101	90002
30103102	90002
30103103	90002
30103104	90002
30103105	90002
30103199	90002
30103201	90002
30103202	90002
30103203	90002
30103204	90002
30103299	90002
30103301	90002
30103311	90002
30103312	90002
30103399	90002
30103402	90002
30103403	90002
30103404	90002
30103405	90002
30103406	90002
30103410	90002
30103411	90002
30103412	90002
30103414	90002
30103415	90002
30103420	90002
30103425	90002
30103430	90002
30103435	90002
30103499	90002
30103501	90002
30103502	90002
30103503	90002
30103506	90002
30103507	90002
30103510	90002
30103515	90002
30103520	90002
30103550	90002
30103551	90002
30103552	90002
30103553	90002
30103554	90002
30103599	90002
30103801	90002
30103901	90002
30103902	90002
30103903	90002
30104001	25404
30104002	25404
30104003	25404
30104004	25404
30104005	25404
30104006	25404
30104007	25404
30104008	25404
30104009	25404
30104010	25404
30104011	25404
30104012	25404
30104013	25404
30104101	0
30104102	0
30104103	0
30104104	0
30104199	0
30104201	90002
30104202	90002
30104203	90002
30104204	90002
30104301	90002
30104501	90002
30105001	25403
30106001	90002
30106002	90002
30106003	90002
30106004	90002
30106005	90002
30106006	90002
30106007	90002
30106008	90002
30106009	90002
30106010	90002
30106011	90002
30106012	90002
30106099	90002
30107001	90002
30107002	90002
30109101	90002
30109105	90002
30109110	90002
30109151	90002
30109152	90002
30109153	90002
30109154	90002
30109180	90002
30109199	90002
30110002	90002
30110003	90002
30110004	90002
30110005	90002
30110099	90002
30111103	90002
30111199	90002
30111201	0
30111202	0
30111299	25407
30112001	90002
30112002	90002
30112005	90002
30112006	90002
30112007	90002
30112011	90002
30112012	90002
30112013	90002
30112014	90002
30112017	90002
30112021	90002
30112031	90002
30112032	90002
30112033	90002
30112034	90002
30112037	90002
30112099	90002
30112199	90002
30112401	90002

(continued)

TABLE G-2. (continued)

SCC	PROFILE
30112402	90002
30112403	90002
30112404	90002
30112405	90002
30112406	90002
30112407	90002
30112480	90002
30112501	90002
30112502	90002
30112504	90002
30112505	90002
30112506	90002
30112509	90002
30112510	90002
30112511	90002
30112512	90002
30112514	90002
30112515	90002
30112520	90002
30112521	90002
30112522	90002
30112524	90002
30112525	90002
30112526	90002
30112527	90002
30112528	90002
30112529	90002
30112530	90002
30112531	90002
30112532	90002
30112533	90002
30112534	90002
30112535	90002
30112540	90002
30112541	90002
30112542	90002
30112543	90002
30112544	90002
30112545	90002
30112546	90002
30112547	90002
30112550	90002
30112551	90002
30112552	90002
30112553	90002
30112555	90002
30112599	90002
30112699	90002
30112701	90002
30112702	90002
30112703	90002
30112720	90002
30112730	90002
30112740	90002
30112780	90002
30113004	90002
30113005	90002
30113201	90002
30113205	90002
30113210	90002
30113221	90002
30113222	90002
30113223	90002
30113224	90002
30113227	90002
30113299	90002
30113301	90002
30113302	90002
30113303	90002
30113380	90002
30113701	90002
30113710	90002
30113799	90002
30114001	90002
30114002	90002
30114003	90002
30114004	90002
30114005	90002
30115201	90002
30115301	90002
30115310	90002
30115311	90002
30115312	90002
30115320	90002
30115321	90002
30115322	90002
30115380	90002
30115601	90002
30115602	90002
30115603	90002
30115604	90002
30115605	90002
30115606	90002
30115607	90002
30115680	90002
30115701	90002
30115702	90002
30115704	90002
30115780	90002
30115801	90002
30115802	90002
30115803	90002
30115821	90002
30115822	90002
30115880	90002
30116701	90002
30116702	90002
30116703	90002
30116704	90002
30116780	90002
30116799	90002
30116901	90002
30116902	90002
30116903	90002
30116904	90002
30116905	90002
30116906	90002
30116980	90002
30117401	90002
30117402	90002
30117410	90002
30117411	90002
30117421	90002
30117480	90002
30117601	90002
30117610	90002
30117611	90002
30117612	90002
30117613	90002
30117614	90002
30117615	90002
30117616	90002
30117617	90002
30117618	90002
30117630	90002
30117631	90002
30117632	90002
30117633	90002
30117634	90002
30117680	90002
30118101	90002
30118102	90002
30118103	90002
30118104	90002
30118105	90002
30118106	90002
30118107	90002
30118108	90002
30118109	90002
30118110	90002

(continued)

TABLE G-2. (continued)

SCC	PROFILE
30118180	90002
30119001	90002
30119002	90002
30119003	90002
30119004	90002
30119010	90002
30119011	90002
30119012	90002
30119013	90002
30119014	90002
30119080	90002
30119501	90002
30119502	90002
30119503	90002
30119504	90002
30119505	90002
30119506	90002
30119580	90002
30119701	90002
30119705	90002
30119706	90002
30119707	90002
30119708	90002
30119709	90002
30119710	90002
30119741	90002
30119742	90002
30119743	90002
30119744	90002
30119745	90002
30119749	90002
30119799	90002
30120201	90002
30120202	90002
30120203	90002
30120204	90002
30120205	90002
30120206	90002
30120210	90002
30120211	90002
30120280	90002
30120501	90002
30120502	90002
30120503	90002
30120504	90002
30120505	90002
30120506	90002
30120507	90002
30120508	90002
30120509	90002
30120520	90002
30120521	90002
30120522	90002
30120523	90002
30120524	90002
30120525	90002
30120526	90002
30120527	90002
30120528	90002
30120529	90002
30120530	90002
30120531	90002
30120532	90002
30120540	90002
30120541	90002
30120542	90002
30120543	90002
30120544	90002
30120545	90002
30120546	90002
30120547	90002
30120548	90002
30120549	90002
30120550	90002
30120551	90002
30120552	90002
30120553	90002
30120554	90002
30120555	90002
30120580	90002
30120601	90002
30120602	90002
30120603	90002
30120680	90002
30121001	90002
30121002	90002
30121003	90002
30121004	90002
30121005	90002
30121006	90002
30121007	90002
30121008	90002
30121009	90002
30121010	90002
30121080	90002
30121101	90002
30121102	90002
30121103	90002
30121104	90002
30121121	90002
30121122	90002
30121123	90002
30121124	90002
30121125	90002
30121180	90002
30125001	90002
30125002	90002
30125003	90002
30125004	90002
30125005	90002
30125010	90002
30125015	90002
30125020	90002
30125021	90002
30125025	90002
30125099	90002
30125101	90002
30125102	90002
30125103	90002
30125104	90002
30125180	90002
30125201	90002
30125301	90002
30125302	90002
30125305	90002
30125306	90002
30125315	90002
30125316	90002
30125325	90002
30125326	90002
30125380	90002
30125401	90002
30125405	90002
30125406	90002
30125407	90002
30125408	90002
30125409	90002
30125410	90002
30125411	90002
30125412	90002
30125413	90002
30125415	90002
30125416	90002
30125417	90002
30125418	90002
30125420	90002
30125499	90002
30125801	90002
30125802	90002
30125803	90002

(continued)

TABLE G-2. (continued)

SCC	PROFILE
30125805	90002
30125806	90002
30125807	90002
30125810	90002
30125815	90002
30125816	90002
30125817	90002
30125880	90002
30125899	90002
30130101	90002
30130102	90002
30130103	90002
30130104	90002
30130105	90002
30130106	90002
30130107	90002
30130108	90002
30130110	90002
30130135	90002
30130180	90002
30130201	90002
30130202	90002
30130203	90002
30130280	90002
30130301	90002
30130302	90002
30130303	90002
30130304	90002
30130305	90002
30130380	90002
30130401	90002
30130402	90002
30130403	90002
30130404	90002
30130405	90002
30130480	90002
30130501	90002
30130502	90002
30130503	90002
30130504	90002
30130505	90002
30130580	90002
30180001	90002
30181001	90002
30182001	90002
30183001	90002
30184001	90002
30187001	90002
30187002	90002
30187003	90002
30187004	90002
30187005	90002
30187006	90002
30187007	90002
30187008	90002
30187009	90002
30187010	90002
30187097	90002
30187098	90002
30187501	90002
30187502	90002
30187597	90002
30187598	90002
30188501	90002
30188502	90002
30188503	90002
30188504	90002
30188505	90002
30188599	90002
30188801	90002
30188802	90002
30188803	90002
30188804	90002
30188805	90002
30190001	90002
30190002	13501
30190003	90002
30190004	90002
30190012	13501
30190013	90002
30190014	90002
30190099	90002
30199998	25405
30199999	25405
30200101	90003
30200102	90003
30200103	90003
30200104	90003
30200199	90003
30200201	90003
30200202	90003
30200203	90003
30200299	90003
30200301	90003
30200401	90003
30200402	90003
30200403	90003
30200404	90003
30200410	90003
30200501	21401
30200502	21401
30200503	21401
30200504	21401
30200505	21401
30200506	21401
30200507	21401
30200508	21401
30200509	21401
30200510	21401
30200511	21401
30200512	21401
30200601	21401
30200602	21401
30200603	21401
30200604	21401
30200605	21401
30200606	21401
30200607	21401
30200608	21401
30200609	21401
30200610	21401
30200611	21401
30200699	21401
30200701	90003
30200702	90003
30200703	90003
30200704	90003
30200705	90003
30200711	90003
30200712	90003
30200713	90003
30200714	90003
30200721	90003
30200722	90003
30200723	90003
30200724	90003
30200731	90003
30200732	90003
30200733	90003
30200734	90003
30200741	90003
30200742	90003
30200743	90003
30200744	90003
30200745	90003
30200751	90003
30200752	90003
30200753	90003
30200754	90003
30200755	90003

(continued)

TABLE G-2. (continued)

SCC	PROFILE
30200756	90003
30200760	90003
30200771	90003
30200772	90003
30200773	90003
30200774	90003
30200781	90003
30200782	90003
30200783	90003
30200784	90003
30200785	90003
30200786	90003
30200787	90003
30200788	90003
30200789	90003
30200790	90003
30200791	90003
30200799	90003
30200801	90003
30200802	90003
30200803	90003
30200804	90003
30200805	90003
30200806	90003
30200899	90003
30200901	90003
30200902	90003
30200903	90003
30200904	0
30200905	90003
30200998	90003
30200999	90003
30201001	90003
30201002	90003
30201003	0
30201004	90003
30201103	0
30201104	90003
30201105	90003
30201106	90003
30201199	0
30201201	0
30201202	0
30201203	90003
30201204	0
30201205	90003
30201206	90003
30201301	90003
30201401	90003
30201501	90003
30201599	90003
30201601	90003
30201699	90003
30201799	90003
30201899	90003
30201901	90003
30201902	90003
30201903	90003
30201904	90003
30201906	90003
30201907	90003
30201908	90003
30201909	90003
30201911	90003
30201912	90003
30201913	90003
30201914	90003
30201915	0
30201916	90003
30201917	90003
30201918	90003
30201919	90003
30201920	0
30201999	90003
30202001	41350
30202002	41350
30202101	90003
30202102	90003
30202105	90003
30202106	90003
30202201	90003
30202601	90003
30202801	90003
30203001	90003
30203099	90003
30203103	90003
30203104	90003
30203105	90003
30203106	90003
30203107	90003
30203108	90003
30203109	90003
30203110	90003
30203111	90003
30203201	0
30203202	0
30203299	0
30203399	90003
30203601	90003
30203801	90003
30288801	90003
30288802	90003
30288803	90003
30288804	90003
30288805	90003
30290001	13501
30290002	13501
30290003	26101
30299998	90003
30299999	90003
30300001	90007
30300002	90007
30300101	29102
30300102	29102
30300103	29102
30300104	29102
30300105	29102
30300106	29102
30300107	29102
30300108	29102
30300109	29102
30300110	29102
30300111	29102
30300199	29102
30300201	90007
30300302	21204
30300303	21203
30300304	21203
30300305	21204
30300306	11201
30300307	21204
30300308	21203
30300309	21204
30300310	21204
30300311	21204
30300312	21203
30300313	11202
30300314	21203
30300315	90007
30300316	21204
30300399	21204
30300401	21203
30300502	29202
30300503	29202
30300504	29202
30300505	29202
30300506	29202
30300507	29202
30300508	29202
30300509	29202

(continued)

TABLE G-2. (continued)

SCC	PROFILE	SCC	PROFILE	SCC	PROFILE
30300510	29202	30300820	28301	30301010	90005
30300511	29202	30300821	28301	30301011	21150
30300512	29202	30300822	28301	30301012	21150
30300513	29202	30300823	28301	30301013	21150
30300514	29202	30300824	28301	30301014	21150
30300515	29202	30300825	28301	30301015	90005
30300516	29202	30300826	28301	30301016	90005
30300517	29202	30300827	28301	30301017	90005
30300518	29202	30300831	41220	30301018	90005
30300521	29202	30300832	41220	30301019	90005
30300522	29202	30300833	41220	30301020	90005
30300523	29202	30300834	41130	30301021	29301
30300524	29202	30300899	90007	30301022	90005
30300525	29202	30300901	28302	30301023	90005
30300526	29202	30300904	90004	30301024	90005
30300527	29202	30300906	90004	30301025	29309
30300528	29202	30300907	90004	30301026	90005
30300599	29202	30300908	90004	30301099	90005
30300601	28401	30300910	90004	30301101	90016
30300602	28401	30300911	90004	30301102	90016
30300603	28401	30300912	90004	30301199	90016
30300604	28401	30300913	28303	30301201	90016
30300605	28401	30300914	28303	30301202	90016
30300610	28401	30300915	90004	30301299	90016
30300611	28401	30300916	28303	30301301	90016
30300613	28401	30300917	28303	30301401	90016
30300614	28401	30300918	28302	30301402	90016
30300615	28401	30300919	28302	30301403	90016
30300616	28401	30300921	90004	30301499	90016
30300617	28401	30300922	90004	30302301	90016
30300699	28401	30300923	90004	30302302	90016
30300701	28401	30300924	90004	30302303	90016
30300702	28401	30300925	90004	30302304	90016
30300703	28401	30300931	90004	30302305	90016
30300704	28401	30300932	90004	30302306	90016
30300801	28301	30300933	90004	30302307	90016
30300802	28301	30300934	90004	30302308	90016
30300804	28301	30300935	90004	30302309	90016
30300805	28301	30300936	90004	30302310	90016
30300808	28301	30300998	90004	30302311	90016
30300809	28301	30300999	90004	30302312	90016
30300811	28301	30301001	29304	30302313	90016
30300812	28301	30301002	29302	30302314	90016
30300813	28301	30301003	29307	30302315	90016
30300814	28301	30301004	21150	30302316	90016
30300815	28301	30301005	21150	30302321	90016
30300816	28301	30301006	90005	30302322	90016
30300817	28301	30301007	90005	30302401	21320
30300818	28301	30301008	29330	30302402	90006
30300819	28301	30301009	21205	30302403	90006

(continued)

TABLE G-2. (continued)

SCC	PROFILE	SCC	PROFILE	SCC	PROFILE
30302404	21340	30400113	90009	30400353	90010
30302405	90006	30400114	90009	30400354	90010
30302406	90006	30400120	90009	30400355	90010
30302407	90006	30400150	90009	30400356	90010
30302408	90006	30400199	90009	30400357	90010
30302409	90006	30400204	28201	30400358	90010
30302410	90006	30400207	19101	30400360	90010
30302411	90006	30400208	19101	30400370	90010
30303002	90007	30400209	19101	30400371	90010
30303003	90007	30400210	19101	30400398	90010
30303005	90007	30400211	19101	30400399	90010
30303006	90007	30400212	19101	30400401	20401
30303007	90007	30400214	19101	30400402	20401
30303008	90007	30400215	19101	30400403	20401
30303009	90007	30400217	19101	30400404	20401
30303010	90007	30400219	19101	30400405	20401
30303011	90007	30400220	19101	30400406	20401
30303012	90007	30400221	19101	30400407	20401
30303014	90007	30400223	19101	30400408	20401
30303015	90007	30400224	19101	30400409	20401
30303016	90007	30400230	19101	30400410	20401
30303099	90007	30400231	19101	30400411	20401
30388801	90007	30400232	19101	30400412	20401
30388802	90007	30400233	19101	30400413	20401
30388803	90007	30400234	19101	30400414	20401
30388804	90007	30400235	19101	30400499	20401
30388805	90007	30400236	19101	30400501	90008
30390001	13501	30400237	19101	30400505	90008
30390002	13501	30400238	19101	30400506	90008
30390003	26101	30400239	19101	30400507	90008
30390004	26101	30400299	20502	30400508	90008
30390011	13501	30400301	28202	30400509	90008
30390012	13501	30400302	90010	30400510	90008
30390013	26101	30400303	28201	30400511	90008
30390014	26101	30400304	90010	30400512	90008
30390023	26101	30400305	90010	30400513	90008
30390024	26101	30400310	90010	30400521	90008
30399999	21501	30400315	90010	30400522	90008
30400101	90009	30400320	90010	30400523	90008
30400102	90009	30400325	90010	30400524	90008
30400103	20101	30400330	90010	30400525	90008
30400104	90009	30400331	90010	30400526	90008
30400105	90009	30400332	90010	30400527	90008
30400106	90009	30400333	90010	30400528	90008
30400107	20102	30400340	90010	30400599	90008
30400108	90009	30400341	90010	30400601	90008
30400109	90009	30400342	90010	30400699	90008
30400110	90009	30400350	90010	30400701	28304
30400111	90009	30400351	90010	30400702	90011
30400112	90009	30400352	90010	30400703	90011

(continued)

TABLE G-2. (continued)

SCC	PROFILE
30400704	28601
30400705	90011
30400706	90011
30400707	90011
30400708	90011
30400709	90011
30400710	90011
30400711	90011
30400712	90011
30400713	90011
30400714	90011
30400715	90011
30400716	90011
30400717	90011
30400718	90011
30400720	90011
30400721	90011
30400722	90011
30400723	90011
30400724	90011
30400725	90011
30400726	90011
30400730	90011
30400731	90011
30400799	90011
30400801	90008
30400802	90008
30400803	90008
30400805	90008
30400806	90008
30400807	90008
30400809	90008
30400810	90008
30400811	90008
30400812	90008
30400814	0
30400818	0
30400824	90008
30400828	90008
30400834	90008
30400838	90008
30400840	90008
30400841	90008
30400842	90008
30400843	90008
30400851	90008
30400852	90008
30400853	90008
30400854	90008
30400855	90008
30400861	90008
30400862	90008
30400863	90008
30400864	90008
30400865	90008
30400866	90008
30400867	90008
30400868	90008
30400869	90008
30400870	90008
30400871	90008
30400872	90008
30400873	90008
30400874	90008
30400875	90008
30400876	90008
30400877	90008
30400899	20501
30400901	90008
30400999	90008
30401001	90008
30401002	90008
30401004	90008
30401005	90008
30401006	90008
30401007	90008
30401008	90008
30401010	90008
30401011	90008
30401099	90008
30402001	90008
30402002	90008
30402003	90008
30402004	90008
30402099	90008
30402201	90008
30402210	90008
30404001	90008
30404901	90008
30405001	90008
30405099	90008
30488801	90008
30488802	90008
30488803	90008
30488804	90008
30488805	90008
30490001	13501
30490002	13501
30490003	26101
30490004	26101
30490011	13501
30490012	13501
30490013	26101
30490014	26101
30490023	26101
30490024	26101
30499999	29203
30500101	25402
30500102	25402
30500103	25402
30500104	25402
30500105	25402
30500110	25402
30500111	25402
30500112	25402
30500113	25402
30500198	25402
30500199	25402
30500201	90013
30500202	90013
30500203	90013
30500204	90013
30500205	90013
30500206	26101
30500207	13501
30500208	13501
30500299	90013
30500301	90013
30500302	90013
30500303	90013
30500304	26101
30500307	90013
30500308	90013
30500309	90013
30500311	90013
30500312	90013
30500313	90013
30500314	90013
30500315	90013
30500316	90013
30500398	90013
30500399	90013
30500401	90013
30500402	90013
30500403	90013
30500404	90013
30500405	90013
30500406	90013
30500499	90013
30500501	90013

(continued)

TABLE G-2. (continued)

SCC	PROFILE	SCC	PROFILE	SCC	PROFILE
30500502	90013	30501001	90013	30501111	90013
30500503	90013	30501002	90013	30501112	90013
30500504	90013	30501003	90013	30501113	90013
30500505	90013	30501004	90013	30501114	90013
30500598	90013	30501005	90013	30501115	90013
30500599	90013	30501006	90013	30501120	90013
30500606	27201	30501007	90013	30501199	90013
30500607	27201	30501008	90013	30501201	90013
30500608	27201	30501009	90013	30501202	90013
30500609	27201	30501010	90013	30501203	90013
30500610	27201	30501011	90013	30501204	90013
30500611	27201	30501012	90013	30501205	90013
30500612	27201	30501013	90013	30501206	90013
30500613	27201	30501014	90013	30501207	90013
30500614	27201	30501015	90013	30501208	90013
30500615	27201	30501016	90013	30501209	90013
30500616	27201	30501017	90013	30501211	90013
30500617	27201	30501021	90013	30501212	90013
30500618	27201	30501022	90013	30501213	90013
30500619	27201	30501023	90013	30501214	90013
30500699	27201	30501024	90013	30501215	90013
30500706	27203	30501030	90013	30501221	90013
30500707	27203	30501031	90013	30501222	90013
30500708	27203	30501032	90013	30501223	90013
30500709	27203	30501033	90013	30501224	90013
30500710	27203	30501034	90013	30501299	90013
30500711	27203	30501035	90013	30501301	90013
30500712	27203	30501036	90013	30501399	90013
30500714	27203	30501037	90013	30501401	27102
30500715	27203	30501038	90013	30501402	27102
30500716	27203	30501039	90013	30501403	27102
30500717	27203	30501040	90013	30501404	27102
30500718	27203	30501041	90013	30501406	0
30500719	27203	30501042	90013	30501407	0
30500799	27203	30501043	90013	30501408	0
30500801	90013	30501044	90013	30501410	0
30500802	90013	30501045	90013	30501411	27102
30500803	90013	30501046	90013	30501412	0
30500899	90013	30501047	90013	30501413	27102
30500901	90012	30501048	90013	30501414	27102
30500902	90012	30501049	90013	30501415	27102
30500903	90012	30501050	90013	30501499	27102
30500904	90012	30501090	90013	30501501	27501
30500905	90012	30501099	90013	30501502	27501
30500906	90012	30501101	90013	30501503	27501
30500907	90012	30501106	90013	30501504	27501
30500908	90012	30501107	90013	30501505	27501
30500909	90012	30501108	90013	30501506	27501
30500910	90012	30501109	90013	30501507	27501
30500999	25406	30501110	90013	30501508	27501

(continued)

TABLE G-2. (continued)

SCC	PROFILE	SCC	PROFILE	SCC	PROFILE
30501509	27501	30502004	21101	30503111	90013
30501510	27501	30502005	21101	30503199	90013
30501511	27501	30502006	21101	30503201	90013
30501512	27501	30502007	21101	30503202	90013
30501513	27501	30502008	21101	30503203	90013
30501514	27501	30502009	21101	30503204	90013
30501515	27501	30502010	21101	30503205	90013
30501516	27501	30502011	21101	30503206	90013
30501517	27501	30502012	21101	30503299	90013
30501518	27501	30502013	21101	30503301	90013
30501519	27501	30502014	21101	30504001	90013
30501520	27501	30502015	21101	30504002	90013
30501521	27501	30502016	21101	30504003	90013
30501522	27501	30502020	21101	30504010	90013
30501599	27501	30502099	21101	30504020	90013
30501601	90013	30502101	90013	30504021	90013
30501602	90013	30502102	90013	30504022	90013
30501603	90013	30502103	90013	30504023	90013
30501604	90013	30502104	90013	30504024	90013
30501605	90013	30502105	90013	30504025	90013
30501606	90013	30502106	90013	30504030	90013
30501607	90013	30502201	90013	30504031	90013
30501608	90013	30502299	90013	30504032	90013
30501609	90013	30502401	90013	30504033	90013
30501610	90013	30502499	90013	30504034	90013
30501611	90013	30502501	21101	30504036	90013
30501612	90013	30502502	21101	30504099	90013
30501613	90013	30502503	21101	30510001	90013
30501614	90013	30502504	21101	30510002	90013
30501615	90013	30502505	21101	30510003	90013
30501616	90013	30502506	21101	30510004	90013
30501617	90013	30502507	21101	30510005	90013
30501699	90013	30502508	21101	30510006	90013
30501701	90013	30502509	21101	30510007	90013
30501702	90013	30502510	21101	30510101	90013
30501703	90013	30502511	21101	30510102	90013
30501704	90013	30502599	21101	30510103	21204
30501705	90013	30502601	90013	30510104	21203
30501799	90013	30502699	90013	30510105	90013
30501801	90013	30503099	90013	30510106	90013
30501899	90013	30503101	90013	30510107	90013
30501901	90013	30503102	90013	30510108	90013
30501902	90013	30503103	90013	30510196	90013
30501903	90013	30503104	90013	30510197	90013
30501904	90013	30503105	90013	30510198	90013
30501905	90013	30503106	90013	30510199	90013
30501999	90013	30503107	90013	30510201	90013
30502001	21101	30503108	90013	30510202	90013
30502002	21101	30503109	90013	30510203	21204
30502003	21101	30503110	90013	30510204	21203

(continued)

TABLE G-2. (continued)

SCC	PROFILE
30510205	90013
30510206	90013
30510207	90013
30510208	90013
30510296	90013
30510297	90013
30510298	90013
30510299	90013
30510301	90013
30510302	90013
30510303	21204
30510304	21203
30510305	90013
30510306	90013
30510307	90013
30510308	90013
30510396	90013
30510397	90013
30510398	90013
30510399	90013
30510401	90013
30510402	90013
30510403	21204
30510404	21203
30510405	90013
30510406	90013
30510407	90013
30510408	90013
30510496	90013
30510497	90013
30510498	90013
30510499	90013
30510501	90013
30510502	90013
30510503	21204
30510504	21203
30510505	90013
30510506	90013
30510507	90013
30510508	90013
30510596	90013
30510597	90013
30510598	90013
30510599	90013
30515001	90013
30515002	90013
30515003	90013
30515004	90013
30515005	90013
30588801	90013
30588802	90013
30588803	90013
30588804	90013
30588805	90013
30590001	13501
30590002	13501
30590003	26101
30590011	13501
30590012	13501
30590013	26101
30590023	26101
30599999	25401
30600101	13501
30600102	26101
30600103	13501
30600104	26101
30600105	26101
30600106	26101
30600107	26101
30600108	26101
30600199	26101
30600201	26202
30600202	26202
30600301	26202
30600401	0
30600402	0
30600503	0
30600504	0
30600505	0
30600506	0
30600602	0
30600603	0
30600701	0
30600702	0
30600801	0
30600802	0
30600803	0
30600804	0
30600805	0
30600806	0
30600807	0
30600811	0
30600812	0
30600813	0
30600814	0
30600815	0
30600816	0
30600817	0
30600818	0
30600819	0
30600820	0
30600821	0
30600822	0
30600901	26101
30600902	26101
30600903	26101
30600904	26101
30600999	26101
30601001	90014
30601101	90014
30601201	90014
30601401	90014
30601599	90014
30609902	13501
30609903	26101
30609904	26101
30609911	13501
30609912	13501
30609913	26101
30609914	26101
30610001	90014
30688801	90014
30688802	90014
30688803	90014
30688804	90014
30688805	90014
30699998	90014
30699999	90014
30700101	0
30700102	0
30700103	0
30700104	90015
30700105	90015
30700106	23202
30700107	0
30700108	90015
30700109	90014
30700110	23103
30700199	90015
30700203	0
30700211	0
30700212	0
30700213	0
30700214	0
30700215	0
30700221	90015
30700222	90015
30700223	90015
30700231	90015
30700232	90015

(continued)

TABLE G-2. (continued)

SCC	PROFILE
30700233	90015
30700234	24101
30700299	90015
30700301	90015
30700302	90015
30700303	90015
30700304	90015
30700401	0
30700402	90015
30700499	90015
30700501	90015
30700597	90015
30700598	90015
30700599	90015
30700701	22301
30700702	22201
30700703	22101
30700704	90015
30700705	90015
30700706	90015
30700707	90015
30700708	90015
30700709	90015
30700711	90015
30700712	90015
30700713	90015
30700714	90015
30700715	90015
30700798	90015
30700799	90015
30700801	90015
30700802	90015
30700803	90015
30700804	22202
30700805	90015
30700806	90015
30700807	90015
30700808	90015
30700896	90015
30700897	90015
30700898	90015
30700899	90015
30701199	90015
30701301	90015
30701399	90015
30702098	90015
30702099	90015
30703001	90015
30703002	90015
30703096	90015
30703097	90015
30703098	90015
30703099	90015
30788801	90015
30788802	90015
30788803	90015
30788804	90015
30788805	90015
30788898	90015
30790001	13501
30790002	13501
30790003	26101
30790011	13501
30790012	13501
30790013	26101
30790023	26101
30799998	90015
30799999	90015
30800101	90016
30800102	90016
30800103	90016
30800104	90016
30800105	90016
30800106	90016
30800107	90016
30800108	90016
30800109	90016
30800110	90016
30800120	90016
30800121	90016
30800122	90016
30800123	90016
30800197	90016
30800198	90016
30800199	90016
30800501	90016
30800699	90016
30800701	90016
30800702	90016
30800703	90016
30800704	90016
30800705	90016
30800720	90016
30800721	90016
30800722	90016
30800723	90016
30800724	90016
30800799	90016
30890001	13501
30890002	13501
30890003	26101
30890011	13501
30890012	13501
30890013	26101
30890023	26101
30899999	90016
30900198	90016
30900199	90016
30900201	90016
30900202	90016
30900203	90016
30900204	90016
30900205	90016
30900206	90016
30900207	90016
30900208	90016
30900298	90016
30900299	90016
30900301	90016
30900302	90016
30900303	90016
30900304	90016
30901001	90001
30901097	90016
30901098	90016
30901099	90016
30901101	90016
30901102	90016
30901103	90016
30901104	90016
30901199	90016
30901501	90016
30901601	25402
30901604	90016
30901605	90016
30901606	90016
30901607	90016
30902099	90016
30902501	90016
30903004	90016
30903005	90016
30903006	90016
30903099	90016
30904001	90016
30904010	90016
30904020	90016
30906001	90016
30906099	90016
30988801	90016
30988802	90016

(continued)

TABLE G-2. (continued)

SCC	PROFILE
30988803	90016
30988804	90016
30988805	90016
30990001	13501
30990002	13501
30990003	26101
30990011	13501
30990012	13501
30990013	26101
30990023	26101
30999997	90016
30999998	90016
30999999	90016
31000101	90016
31000102	90016
31000103	90016
31000104	90016
31000105	90016
31000199	90016
31000201	0
31000202	90016
31000203	90016
31000204	90016
31000205	90016
31000206	90016
31000207	90016
31000299	90016
31000401	13501
31000402	13501
31000403	13501
31000404	26101
31000405	26101
31000411	13501
31000412	13501
31000413	13501
31000414	26101
31000415	26101
31088801	90016
31088802	90016
31088803	90016
31088804	90016
31088805	90016
31088904	90016
31100199	41350
31100299	41350
31299999	90016
31307001	90016
31307002	90016
31390001	13501
31390002	13501
31390003	26101
31399999	90016
31400901	90016
31401001	90016
31401002	90016
31401101	90016
31401102	90016
31499999	90016
31501001	90016
31501002	90016
31501003	90016
31502001	90016
32099997	90016
32099998	90016
32099999	90016
33000101	90016
33000102	90016
33000103	90016
33000104	90016
33000105	90016
33000198	90016
33000199	90016
33000201	90016
33000202	90016
33000211	90016
33000212	90016
33000213	90016
33000214	90016
33000298	90016
33000299	90016
33000399	90016
33000499	90016
33000599	90016
33088801	90016
33088802	90016
33088803	90016
33088804	90016
33088805	90016
36000101	90016
39000199	0
39000201	0
39000203	0
39000289	0
39000299	0
39000389	0
39000399	0
39000402	0
39000403	0
39000489	0
39000499	0
39000501	0
39000502	0
39000503	0
39000589	0
39000598	0
39000599	0
39000602	0
39000603	0
39000605	0
39000689	0
39000699	0
39000701	0
39000702	0
39000788	0
39000789	0
39000797	0
39000798	0
39000799	0
39000801	0
39000889	0
39000899	0
39000989	0
39000999	0
39001089	0
39001099	0
39001299	0
39001389	0
39001399	0
39990001	13501
39990002	13501
39990003	26101
39990004	26101
39990011	13501
39990012	13501
39990013	26101
39990014	26101
39990022	13501
39990023	26101
39990024	26101
39999993	90016
39999994	90016
39999995	90016
39999996	90016
39999998	90016
39999999	90016
40100101	0
40100102	0
40100103	0
40100104	0
40100105	0

(continued)

TABLE G-2. (continued)

SCC	PROFILE
40100106	0
40100198	0
40100199	0
40100201	0
40100202	0
40100203	0
40100204	0
40100205	0
40100206	0
40100207	0
40100208	0
40100215	0
40100216	0
40100217	0
40100221	0
40100222	0
40100223	0
40100224	0
40100225	0
40100235	0
40100236	0
40100251	0
40100252	0
40100253	0
40100254	0
40100255	0
40100256	0
40100257	0
40100258	0
40100259	0
40100295	0
40100296	0
40100297	0
40100298	0
40100299	0
40100301	0
40100302	0
40100303	0
40100304	0
40100305	0
40100306	0
40100335	0
40100336	0
40100398	0
40100399	0
40100401	0
40100499	0
40188801	0
40188802	0
40188803	0
40188804	0
40188805	0
40188898	0
40200101	25403
40200110	25403
40200201	25403
40200210	25403
40200301	25403
40200310	25403
40200401	25403
40200410	25403
40200501	0
40200510	25403
40200601	25403
40200610	25403
40200701	25403
40200706	0
40200707	0
40200710	25403
40200801	25403
40200802	25403
40200803	25403
40200810	25403
40200898	25403
40200899	25403
40200901	0
40200902	0
40200903	0
40200904	0
40200905	0
40200906	0
40200907	0
40200908	0
40200909	0
40200910	0
40200911	0
40200912	0
40200913	0
40200914	0
40200915	0
40200916	0
40200917	0
40200918	0
40200919	0
40200920	0
40200921	0
40200922	0
40200923	0
40200924	0
40200925	0
40200926	0
40200927	0
40200928	0
40200998	0
40201001	26101
40201002	13501
40201003	13501
40201004	26101
40201101	25403
40201103	25403
40201104	25403
40201105	25403
40201111	25403
40201112	25403
40201113	25403
40201114	25403
40201115	25403
40201116	25403
40201199	25403
40201201	25403
40201210	25403
40201301	25403
40201303	25403
40201304	25403
40201305	25403
40201399	25403
40201401	25403
40201402	25403
40201403	25403
40201404	25403
40201405	25403
40201406	25403
40201431	25403
40201432	25403
40201433	25403
40201434	25403
40201435	25403
40201436	25403
40201437	25403
40201438	25403
40201499	25403
40201501	25403
40201502	25403
40201503	25403
40201504	25403
40201505	25403
40201531	25403
40201599	25403
40201601	25403
40201602	25403

(continued)

TABLE G-2. (continued)

SCC	PROFILE	SCC	PROFILE	SCC	PROFILE
40201603	25403	40202003	25403	40202536	25403
40201604	25403	40202004	25403	40202537	25403
40201605	25403	40202005	25403	40202599	25403
40201606	25403	40202031	25403	40202601	25403
40201619	25403	40202032	25403	40202602	25403
40201620	25403	40202033	25403	40202603	25403
40201621	25403	40202034	25403	40202604	25403
40201622	25403	40202099	25403	40202605	25403
40201623	25403	40202101	25403	40202606	25403
40201624	25403	40202103	25403	40202607	25403
40201625	25403	40202104	25403	40202699	25403
40201626	25403	40202105	25403	40288801	25403
40201627	25403	40202106	25403	40288802	25403
40201628	25403	40202107	25403	40288803	25403
40201629	25403	40202108	25403	40288804	25403
40201630	25403	40202109	25403	40288805	25403
40201631	25403	40202131	25403	40290023	25403
40201632	25403	40202132	25403	40299995	25403
40201699	25403	40202133	25403	40299996	25403
40201702	25403	40202199	25403	40299997	25403
40201703	25403	40202201	25403	40299998	25403
40201704	25403	40202202	25403	40299999	25403
40201705	25403	40202203	25403	40300101	0
40201721	25403	40202204	25403	40300102	0
40201722	25403	40202205	25403	40300103	0
40201723	25403	40202299	25403	40300104	0
40201724	25403	40202301	25403	40300105	0
40201725	25403	40202302	25403	40300106	0
40201726	25403	40202303	25403	40300107	0
40201727	25403	40202304	25403	40300108	0
40201728	25403	40202305	25403	40300109	0
40201731	25403	40202306	25403	40300110	0
40201732	25403	40202399	25403	40300111	0
40201733	25403	40202401	25403	40300112	0
40201734	25403	40202402	25403	40300113	0
40201735	25403	40202403	25403	40300114	0
40201736	25403	40202404	25403	40300115	0
40201799	25403	40202405	25403	40300116	0
40201801	25403	40202406	25403	40300150	0
40201803	25403	40202499	25403	40300151	0
40201804	25403	40202501	25403	40300152	0
40201805	25403	40202502	25403	40300153	0
40201806	25403	40202503	25403	40300154	0
40201899	25403	40202504	25403	40300155	0
40201901	25403	40202505	25403	40300156	0
40201903	25403	40202531	25403	40300157	0
40201904	25403	40202532	25403	40300158	0
40201999	25403	40202533	25403	40300159	0
40202001	25403	40202534	25403	40300160	0
40202002	25403	40202535	25403	40300161	0

(continued)

TABLE G-2. (continued)

SCC	PROFILE
40300198	0
40300199	0
40300201	0
40300202	0
40300203	0
40300204	0
40300205	0
40300207	0
40300208	0
40300209	0
40300210	0
40300211	0
40300212	0
40300213	0
40300214	0
40300215	0
40300216	0
40300299	0
40300302	0
40301001	0
40301002	0
40301003	0
40301004	0
40301005	0
40301006	0
40301007	0
40301008	0
40301009	0
40301010	0
40301011	0
40301012	0
40301013	0
40301014	0
40301015	0
40301016	0
40301017	0
40301018	0
40301019	0
40301020	0
40301021	0
40301097	0
40301098	0
40301099	0
40301101	0
40301102	0
40301103	0
40301104	0
40301105	0
40301106	0
40301107	0
40301108	0
40301109	0
40301110	0
40301111	0
40301112	0
40301113	0
40301114	0
40301115	0
40301116	0
40301117	0
40301118	0
40301119	0
40301120	0
40301130	0
40301131	0
40301132	0
40301133	0
40301134	0
40301135	0
40301140	0
40301141	0
40301142	0
40301143	0
40301144	0
40301145	0
40301150	0
40301151	0
40301152	0
40301153	0
40301154	0
40301155	0
40301197	0
40301198	0
40301199	0
40301201	0
40301202	0
40301203	0
40301204	0
40301205	0
40301206	0
40301207	0
40301299	0
40388801	0
40388802	0
40388803	0
40388804	0
40388805	0
40399999	0
40400101	0
40400102	0
40400103	0
40400104	0
40400105	0
40400106	0
40400107	0
40400108	0
40400109	0
40400110	0
40400111	0
40400112	0
40400113	0
40400114	0
40400115	0
40400116	0
40400117	0
40400118	0
40400119	0
40400120	0
40400151	0
40400152	0
40400153	0
40400154	0
40400199	0
40400201	0
40400202	0
40400203	0
40400204	0
40400205	0
40400206	0
40400207	0
40400208	0
40400209	0
40400210	0
40400211	0
40400212	0
40400213	0
40400250	0
40400251	0
40400254	0
40400301	0
40400302	0
40400303	0
40400304	0
40400305	0
40400401	0
40400402	0
40400403	0
40400404	0
40400405	0
40400406	0

(continued)

TABLE G-2. (continued)

SCC	PROFILE
40400407	0
40400408	0
40400409	0
40400410	0
40400411	0
40400412	0
40400413	0
40400414	0
40400497	0
40400498	0
40500101	26101
40500199	26101
40500201	0
40500202	0
40500203	0
40500211	0
40500212	0
40500301	0
40500302	0
40500303	0
40500304	0
40500305	0
40500306	0
40500307	0
40500311	0
40500312	0
40500401	0
40500411	0
40500412	0
40500413	0
40500501	0
40500502	0
40500503	0
40500506	0
40500507	0
40500510	0
40500511	0
40500512	0
40500513	0
40500598	0
40500599	0
40500601	0
40500701	0
40588801	0
40588802	0
40588803	0
40588804	0
40588805	0
40600101	0
40600126	0
40600130	0
40600131	0
40600132	0
40600133	0
40600134	0
40600135	0
40600136	0
40600137	0
40600138	0
40600139	0
40600140	0
40600141	0
40600142	0
40600143	0
40600144	0
40600145	0
40600146	0
40600147	0
40600148	0
40600149	0
40600160	0
40600161	0
40600162	0
40600163	0
40600197	0
40600198	0
40600199	0
40600231	0
40600232	0
40600233	0
40600234	0
40600235	0
40600236	0
40600237	0
40600238	0
40600239	0
40600240	0
40600241	0
40600242	0
40600243	0
40600244	0
40600245	0
40600246	0
40600248	0
40600249	0
40600250	0
40600251	0
40600253	0
40600254	0
40600255	0
40600256	0
40600257	0
40600259	0
40600298	0
40600299	0
40600301	0
40600302	0
40600305	0
40600306	0
40600307	0
40600399	0
40600401	0
40600402	0
40600403	0
40600499	0
40688801	0
40688802	0
40688803	0
40688804	0
40688805	0
40700401	0
40700402	0
40700497	0
40700498	0
40700801	0
40700802	0
40700803	0
40700804	0
40700805	0
40700806	0
40700807	0
40700808	0
40700809	0
40700810	0
40700811	0
40700812	0
40700813	0
40700814	0
40700815	0
40700816	0
40700817	0
40700818	0
40700897	0
40700898	0
40701601	0
40701602	0
40701603	0
40701604	0
40701605	0
40701606	0

(continued)

TABLE G-2. (continued)

SCC	PROFILE	SCC	PROFILE	SCC	PROFILE
40701609	0	40704003	0	40705211	0
40701610	0	40704004	0	40705212	0
40701611	0	40704005	0	40705213	0
40701612	0	40704006	0	40705214	0
40701613	0	40704007	0	40705215	0
40701614	0	40704008	0	40705216	0
40701697	0	40704009	0	40705217	0
40701698	0	40704010	0	40705218	0
40702001	0	40704097	0	40705297	0
40702002	0	40704098	0	40705298	0
40702003	0	40704401	0	40705601	0
40702004	0	40704402	0	40705602	0
40702097	0	40704403	0	40705603	0
40702098	0	40704404	0	40705604	0
40703201	0	40704405	0	40705605	0
40703202	0	40704406	0	40705606	0
40703203	0	40704407	0	40705607	0
40703204	0	40704408	0	40705608	0
40703205	0	40704409	0	40705609	0
40703206	0	40704410	0	40705610	0
40703297	0	40704411	0	40705697	0
40703298	0	40704412	0	40705698	0
40703601	0	40704413	0	40706001	0
40703602	0	40704414	0	40706002	0
40703603	0	40704415	0	40706003	0
40703604	0	40704416	0	40706004	0
40703605	0	40704417	0	40706005	0
40703606	0	40704418	0	40706006	0
40703607	0	40704419	0	40706007	0
40703608	0	40704420	0	40706008	0
40703609	0	40704421	0	40706009	0
40703610	0	40704422	0	40706010	0
40703611	0	40704423	0	40706011	0
40703612	0	40704424	0	40706012	0
40703613	0	40704497	0	40706013	0
40703614	0	40704498	0	40706014	0
40703615	0	40704801	0	40706015	0
40703616	0	40704802	0	40706016	0
40703617	0	40704897	0	40706017	0
40703618	0	40704898	0	40706018	0
40703619	0	40705201	0	40706019	0
40703620	0	40705202	0	40706020	0
40703621	0	40705203	0	40706021	0
40703622	0	40705204	0	40706022	0
40703623	0	40705205	0	40706023	0
40703624	0	40705206	0	40706024	0
40703697	0	40705207	0	40706097	0
40703698	0	40705208	0	40706098	0
40704001	0	40705209	0	40706401	0
40704002	0	40705210	0	40706402	0

(continued)

TABLE G-2. (continued)

SCC	PROFILE	SCC	PROFILE	SCC	PROFILE
40706403	0	40722004	0	40786002	0
40706404	0	40722005	0	40786003	0
40706497	0	40722006	0	40786004	0
40706498	0	40722007	0	40786099	0
40706801	0	40722008	0	40786401	0
40706802	0	40722009	0	40786499	0
40706813	0	40722010	0	40787201	0
40706814	0	40722097	0	40787299	0
40706897	0	40722098	0	40799997	0
40706898	0	40722801	0	40799998	0
40707601	0	40722802	0	40899995	0
40707602	0	40722803	0	40899997	0
40707697	0	40722804	0	40899999	0
40707698	0	40722805	0	49000101	0
40708001	0	40722806	0	49000102	0
40708002	0	40722897	0	49000103	0
40708097	0	40722898	0	49000104	0
40708098	0	40723201	0	49000105	0
40708401	0	40723202	0	49000199	0
40708402	0	40723297	0	49000201	0
40708403	0	40723298	0	49000202	0
40708404	0	40781201	0	49000203	26101
40708497	0	40781202	0	49000204	0
40708498	0	40781601	0	49000205	0
40717205	0	40781602	0	49000206	0
40717206	0	40781603	0	49000299	0
40717207	0	40781604	0	49000301	0
40717208	0	40781605	0	49000302	0
40717209	0	40781699	0	49000303	0
40717210	0	40782001	0	49000304	0
40717211	0	40782002	0	49000399	0
40717212	0	40782003	0	49000401	0
40717297	0	40782004	0	49000402	0
40717298	0	40782005	0	49000403	0
40717601	0	40782006	0	49000404	0
40717602	0	40782007	0	49000405	0
40717603	0	40782008	0	49000499	0
40717604	0	40782009	0	49090011	13501
40717697	0	40782010	0	49090012	13501
40717698	0	40782011	0	49090013	26101
40718097	0	40782099	0	49090023	26101
40720801	0	40782401	0	49099998	0
40720802	0	40782499	0	49099999	0
40720803	0	40783201	0	50100101	17106
40720804	0	40783202	0	50100102	17106
40720897	0	40783203	0	50100201	90001
40720898	0	40783299	0	50100202	42320
40722001	0	40784801	0	50100505	90001
40722002	0	40784899	0	50100506	17120
40722003	0	40786001	0	50100507	90001

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